AIRSIDE SAFETY SURVEY 2011
A DEFINITIVE SURVEY OF TECHNIQUES, EQUIPMENT INVENTORIES AND OPINION REGARDING ALL ASPECTS OF AIRFIELD OPERATIONS BY EUROPE’S AIRPORTS
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INTRODUCTION
THE AIRSIDE SAFETY SURVEY 2011

Our annual survey of ACI EUROPE member airports provides a comprehensive and invaluable guide to their respective airside operations, covering such practices as winter services, safety management systems, FOD prevention, bird and wildlife control, friction testing and crash fire rescue.

This survey includes responses from a wide variety of airports, ranging from major European hubs to regional airports and in order to ensure the highest level of accuracy, each response has been left largely unedited wherever possible.

In addition to providing a detailed outline of the airside operations, the survey also identifies key and emerging trends, as well as providing a significant insight into which airports are planning to purchase new equipment.

Budapest Airport, for instance, has plans to buy new high-speed sweepers and a blower unit in 2011, while the “selection procedure is about to start” at Ostrava, which will introduce new equipment in the next 2-3 years.

Meanwhile, Brussels South Charleroi Airport’s response explains: “Each year, at the end of the winter season, we adapt our experience and analysis issues for next year.” A forthcoming extension to the Apron and the introduction of more aircraft parking space will
require the airport to buy new equipment, including three sweeper-blowers with a snowplough, one spreader, and one truck with a milling cutter. As part of Southampton Airport’s business plan, the “replacement of daily operational vehicles” is also scheduled.

The winter services strategies of the member airports is an area in which major differences are most evident. While Stockholm-Arlanda Airport reports an average of 110 annual days of snow, Dubrovnik experiences just 1-2 days of snow per year on average. Therefore, while the former’s comprehensive winter equipment inventory comprises “17 Schmidt TJ560 Compact Jet Sweepers + Snow Plows; 8 Wheel Loaders Volvo L50-120; 2 Sand sprinkle-devices Nido RSP; 3 Granulate sprinkle-devices Schmidt Nido Stroman; 3 Runway de-icing vehicles Nido RSP; 3 Articulated Haulers Volvo A 30 Snowdumpers; 2 Snowblowers Overaasen 1560 Supra 5000; 3 Wheeled Shovel-Loader Overaasen Supra 5000; 4 Truck Snowtransporter; 4 Surface friction testers SFH; 1 Snowgroomer”, the latter’s entails a total of just four units.

BIRD AND WILDLIFE CONTROL

Bird and Wildlife control methods also differ from airport to airport and each response outlines exactly how this vital aspect of airside operations is approached. Aberdeen Airport has bird control staff working on the airfield continuously and in order to protect the airport from wildlife-related risk, “Grass length is kept at between 6-8 inches, herbicides used to discourage weed growth and insecticides used to kill the hatching larve that grows into the insects that attract bird activity.”

A ‘long grass policy’ is employed at Stavanger Airport and, in addition, “we patrol the airfield constantly to scare birds, using scarecrow, lasers, shooting and flares.” Airport operator Fraport AG carries out the bird control programme at Frankfurt Airport in accordance with national laws and international practices for aerodromes, based on recommendations of the German Airports Association. One of the main policies is to “manage habitat conditions to influence the bird population in a qualitative and quantitative way within the area critical to air safety around the airport.”

NEW METHODS

As airports continue to further improve safety through airside operations, a number of them have plans in place to amend their methods in the near future. The methodology at East Midlands Airport is “under constant review”, Ostend-Bruges is working on a new ‘Snow Plan’, while Limoges is in the middle of a study into the law framework on water.

Malta International Airport is also going to introduce new methods “in terms of safety procedures in line with refuelling with passengers on board, and a new programme for the airfield driving permits and basic safety issues for new entrants.” At Liege, meanwhile, all procedures are improved every year by audits, exercises, workshops and SMS.
A flock of geese flying into an aircraft turbine can cause catastrophic engine failure. No airline engine is designed to withstand this type of impact. A Canada Goose, struck by a 150mph aircraft at lift-off, generates the force of a 454 kg weight dropped from a height of 3 meters.

WOULD YOU RISK IT?

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8.4 Maximum snow in 24 hours: 25cm.
8.5 Annual number of days of de-icing activities: 30.
9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 10.
10. WINTER SERVICES QUESTIONNAIRE
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example: compact jet sweeper, Schmidt, CJS 720, 4 units): Runway Sweepers – Schorling P17A x 5, Schorling P21 x 2, Apron Sweepers – Holmes Brushes x 2, Mikro Brush/Plough x 1, Kubota 1m Plough/De-icer x 2. De-icers – MMG 2 x 1, BVE Plough x 2.
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Runways, taxiways, passenger areas, roads, apron areas.
11.3 After moderate snowfall, how quickly do you expect to achieve ‘black top’ on the runway? 45 minutes with optimum clearing conditions.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Last year saw the use of Clearway which on the whole was effective when surface is not contaminated at average freezing temperatures at Aberdeen, holdover of 2 – 3 days can be achieved when temperature remains below zero and no further contamination occurs, normally at Aberdeen temperatures rise above zero and cleanway starts to degrade as designed. When the temperature fluctuates or fluid becomes contaminated holdover can be as little as 3 hours. 12.2 Comment on storage capabilities of the chemicals which you use: Prolonged storage is not required at Aberdeen due to fluid use; storage between seasons is not a problem.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Storage is an issue, as solids are hygroscopic. We therefore do not use any significant amount of solids.
12.4 Have you experienced any corrosion problems with de-icers? Yes, Cleanway 3 is corrosive to plated metals and galvanised materials.
12.5 Have you employed any methods to economise on chemical use? Yes, we use of GPS.
12.6 Do you have any other comments on experience with chemicals? Yes we have the experience of the Security Team who react to low levels of contamination.
12.7 Do you use other chemicals or sand on operational areas? No.
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Ice alarm
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Provide support to the decision making process of when to anti-ice, however only used as an aid.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please provide details: Yes, we service the area.
14.2 are you required to have dedicated de-icing positions or do you de-ice on the parking area? Designated on Aircraft Landing Areas.
14.3 is glycol recovered? Yes, please provide details: Yes, we have a glycol recovery system.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? Yes, we use the Skidometer.
15.2 Have you any comments on the reliability of friction indexes? We do not comment on friction ratings during winter ops as per current CAAs legislation.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? Yes, testing to be undertaking on the European/Scandinavian method of always using snow ploughs on runway sweepers.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details: Schmidt de-icing unit on order.
16.4 Do you have any winter services equipment which you would like to sell? No.

AMSTERDAM

3400m x 60m, Width – 45m, lda – 2850m, cat – cat iii/e/4; runway 18R, Width – 60m, LDA – 3530m, CAT III/E; runway 36L, tora – 3800m x 75m, Width – 60m. Taxiways: Total length: 49 km, from which 43 km suited for CAT III operations. Aprons/ramps: Total number: 228, from which 100 are equipped with boarding bridges and 21 are solely for freight handling. The other ramps are in use for remote passenger handling, aircraft buffering and parking.

2.2 Landing aids for each Rwy (e.g., CAT III/B).

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, we continuously improve the SMS for the runway safety processes. Of course this means sometimes to reappraise some parts (procedures) of the safety management system.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   (a) Training: Regulations about FOD are described in our Handbook Safety and Security. Every employee is tested upon his/her knowledge of this handbook before he is allowed to work on airside. Authority personnel are trained in recognizing FOD and removal of dangerous objects (dead birds) and dirt on taxi- and runways.
   (b) Inspection by airline, airport, and aircraft handling agency personnel. Authority Officers see to it that employees on roads and ramps stick to the regulations about FOD. Before docking of an airplane the ramp is inspected by the handler.
   (c) Use of sweepers, magnetic bars, etc., of ice and snow removal equipment.
   (d) Maintenance/repair of vehicles.

6. BIRD AND WILDLIFE CONTROL
6.1 do your staff attend recognised bird control training courses? Yes, for example hunting courses and “quality training days”.
6.2 are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuous (24-hour staff available).
6.4 do you carry out a bird strike risk assessment? At the moment we are doing a risk assessment about the presence of geese: Risk assessments are performed in cooperation with our home carrier AF-KLM. We are audited yearly by several organisations.
6.5 Do you staff log all their bird control activities? (to manage success in dealing with future bird strikes) Log all activities on a computer system.

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Amsterdam Airport Schiphol
2. MOVEMENT AND MANOEUVRING AREA DATA
   2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, etc.): Runway 04, TORA – 2014m x 60m, Width – 45m, LDA – 2014m; Runway 22, TORA – 2014m x 60m, Width – 45m, LDA, 2014m, MLS – CAT I/B/1; Runway 06, TORA – 3500m x 60m, Width – 45m, LDA – 3250m, MLS – CAT III/E; Runway 24, TORA 3500m x 60m, Width – 45m, LDA – 3500m; Runway 09, 3455m x 60m, Width – 45m, LDA – 3453m; Runway 27, TORA – 3453m x 60m, Width – 45m, LDA – 3453m, MLS – CAT III/E; Runway 18C, TORA – 3300m x 60m, Width – 45m, LDA – 3300m, CAT III/E; Runway 36C, TORA – 3300m x 60m, Width – 45m, LDA – 2850m, MLS – CAT III/E; Runway 18L, TORA – 3400m x 60m, Width – 45m, LDA – 2850m; Runway 36R, TORA – 3400m x 60m, Width – 45m, LDA – 2850m, CAT III/E; Runway 18R, Width – 60m, LDA – 3530m, CAT III/E; Runway 36L, TORA – 3800m x 75m, Width – 60m. Taxiways: Total length: 49 km, from which 43 km suited for CAT III operations. Aprons/ramps: Total number: 228, from which 100 are equipped with boarding bridges and 21 are solely for freight handling. The other ramps are in use for remote passenger handling, aircraft buffering and parking.

5.2 What is the primary method of monitoring vehicle and aircraft movements on the ground? By sight, radio communication and radar/MLAT (every vehicle in the manoeuvring area has an ADS-B transponder).
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes. At Schiphol we have a zero tolerance for runway incursions of cat. A. Next to that we are trying to decrease the overall number of incursions by investigation to find out the root cause. After investigation there could be recommended design changes, structural measures (lighting, markings, etc) or changes in procedures. On a more structural basis, AMS is going to install Runway Guard Lights where extra conspicuity is needed and implement special switchable signs for the co-ordination of tow-traffic.
5.3 What safety devices are currently employed? (a) S-MGCS; (b) Area Safety System – AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment); All runways are protected by RIASS (Runway Incursion Alert System Schiphol) during low visibility operations. RIASS will sound an alert in the control tower to warn ATC that a RAI might occur (RIMCAS, but specially developed by UVL. Based on MLAT and enhanced with ADS-B signals where available),
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other low-cost technologies: Any measure that could prevent a pilot of vehicle driver to make a runway incursion should be used. No matter if it is high or low tech.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training for all vehicle drivers who operate in the manoeuvring area, extra training for those who have to cross runways. Recurrent training after a period of 1-3 years for those who drive in the manoeuvring area. Apron controllers are certified.
5.6 Have the reporting procedures for runway incursion incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? All organizations at Schiphol Airport have their own responsibilities for reporting incursions and investigation. There is not a specific reporting tool. Every runway incursion gets discussed in the Runway Safety Team. Most investigations are jointly done. Investigations are to learn and not to punish.

6.5 Do you staff log all their bird control activities? (to manage success in dealing with future bird strikes) Log all activities on a computer system.
6. Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? At our airport, we have 10 regular hunding days to control the population.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 7 x E-one Titan HPR 8 x 8; Year of manufacture 2002 – 2004; 2 x Boom. Year of manufacture 2002 – 2004; 2 x Mercedes Atego, Year of manufacture 2007/2008.

7.2 Future developments – are there plans to purchase or dispose of any equipment? There are no plans to dispose any equipment.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Amsterdam airport possesses a fire training simulator which is available to other airports for training purpose.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From October until May for de-icing aircraft and from November until April for de-icing RWY.

8.2 Average annual days of snow: 7 days per snowseason.

8.3 Average snow depth: Less than 1 cm.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Per shift maximum 100.

10. WINTER INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units); Truck + plough + blowwreaper 18; Truck + blowwreaper 12; Truck + plough 5; Snowblowers 3; Sprinkle-devices Salt 9; sprinkle-devices Kac 5; runway de-icing vehicles 3; Frontloader 1 Wheeled shovel-loader 14; Trucks snow-transportation 20.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Runway-Taxways-Aproons.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: We spray chemicals to prevent icing and snow building. For the RWY we use the sprinkle-devices of 33 spray chemicals to prevent icing and snow build-up. As a result, we use the sprinkle-devices of 33 spray chemicals to prevent icing and snow build-up.

11.3 In your experience with chemicals? Yes, but it is hard to measure the influence of de-icers and prevent corrosion. All vehicles are coated to minimize the effect of the de-icing materials.

11.4 Have you employed any special means to economise on chemical use? The usage of weather-stations and sensors for precise temperature readings to decrease the amount of used chemicals.

11.5 Do you have any other comments on experience with chemicals? No, but the environmental issues will become even sharper in the near future.

11.6 Do you use other chemicals or sand on operational areas? At this moment we only use KAC and no sand. It is however possible that due to environmental issues and the lack of KAC we are forced to use sand.

12. ICE WARNING SYSTEMS

12.1 State model and number of ice warning systems: Every RWY has its own weather-station with sensors. With these sensors it is possible to measure the surface temperature, ground temperature at -30cms, dew point and the amount of liquids still available.

This helps to determine the use of spraying or not.

12.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

12.3 Comment on your experiences with the benefits/ disbenefits of ice warning systems: Due to the information gain, from the weather-station-sensors it is far more accurate to determine the necessity and amount of surface de-icing chemicals. Therefore we are able to reduce the costs for winteroperation for as much as 300.000 in an average winter.

13. AIRCRAFT DE-ICING

13.1 Does the aircraft directly provide aircraft anti/ de-icing services or do you de-ice on the parking area? We use dedicated de-icing positions primarily. So we can manage the spills and glycol on the parking area.

13.2 Is glycol recovered? If so, please state methods: It is separated, and transported to a third party.

14. FROST FREE SURFACE

14.1 What model(s) of friction tester do you use? We have 2 VW Sharan’s with Air- port Surface Friction Tester from Sweden.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? You have 2 VW Sharan’s with Airport Surface Friction Tester from Sweden.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example): Yes, we started a more selective spraying method based on RWY usage. Plus we are adjusting the spraying vehicles so they use less Kac and this has already led to a reduction of 200,000 ltrs of KAC.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment which you would like to sell? No.

16.5 What model(s) of friction tester do you use? You have 2 VW Sharan’s with Airport Surface Friction Tester from Sweden.
way safety incidents been set up jointly with other parties active in these processes? Further, do they consider the “non-punitive” principles such as “no-penalty” reporting? Yes.

6. **BIRD AND WILDLIFE CONTROL**

6.1 Do your unit staff attend recognised bird control training courses?

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Very regular control.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturers): Gunfire, birdscare cartridgues, birdnoise.

6.4 Do you carry out a bird strike risk assessment?

6.5 Have you employed any special means to manage success in dealing with the problem, and to use in defence in case of lawsuits? Yes.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. **GRAVE FIRE RESCUE**

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g., MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture.

7.2 Future developments – are there plans to purchase or dispose of any equipment? No.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes.

8. **RECENT WINTER CONDITIONS**

8.1 What is the designated period of winter readiness? 1 Nov-31 Mar.

8.2 Average annual days of snow: 20.2.

8.3 Average snow depth: -2.0 cm.

8.4 Maximum snow in 24 hours: +/- 15 cm.

8.5 Annual number of days of de-icing activities: 23.

9. **WINTER ORGANISATION**

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 6 persons per shift, no sub-contracted winter service.

10. **WINTER EQUIPMENT INVENTORY**

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units. (For example: compact jet sweeper, Schmidt CJS 720, 4 units): Snow plough MB Track, 3 towed snow blowers Shortling, Mercedes deicing vehicle 4000 litre potasiumacetataat.

11. **PROCEDURES AND METHODS**

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons) and speed of units of each facility: First RW 11/29 then Tav’s and apron 1 and 2.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Start sweeping on the Rwy axis with 2 snowblowers in close formation. The first on the axis the second 3m out of the axis in the back of the first, then working the snow out to the edges taking core not to cover the Rwy light systems. When ready and after mu measure stabilisation of the Rwy surface with potasiumacetataat. “Winter operations” manual available for special weather conditions.

11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runways? Between 30 minutes and 1 hour.

12. **EXPERIENCE WITH CHEMICALS**

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: 50,550 litre used Cytycho Potasiumacetataat effectiveness good and hold over time good.

12.2 State on experience capabilities of the chemicals which you use: New tanks in stainless steel for 30,000 litre kalicmate storage.

12.3 Have you employed any mixing ratios with liquids, “blow-away factor” etc? In case we need a strong reaction (black ice) we spread prilled Sodiumacetate and moisten the product with Potasiumacetataat.

12.4 Have you experienced any corrosion problems with de-icers? No.

12.5 Have you employed any special means to economise on chemical use? Previous use of the liquid deicer and a close control of the physical action of the chemicals. Close follow up of the meteo conditions.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or sand on the parking area? No.

13. **ICE WARNING SYSTEMS**

13.1 State model and number of ice warning systems: 2 sensors on the Rwy.

13.2 Have you planned to purchase further ice warning systems and sensors if so which model(s)? No.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: The warning system is for us a second help, in the first place personal control of the pavements is necessary.

14. **AIRCRAFT DE-ICING**

14.1. Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Done by a private company.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No.

14.3 Is glycol recovered? If so, please state methods: No.

15. **FRICTION TESTING**

15.1. What model(s) of friction tester do you use? SAAB friction tester.

15.2. Have you any comments on the reliability of friction indexes? Reliability is good.

16. **FUTURE DEVELOPMENTS**

16.1. Are you about to change any of your airport’s methods? No.

16.2. Do you plan to purchase new equipment or vehicles? If so, please provide details: No.

16.3. Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4. Do you have any winter services equipment which you would like to sell? No.
5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? SMR.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.

5.3 What safety devices are currently employed? (A-SMGoS; Airport Movement Area Safety System - AMSA; or ASDE-X, the Model X Airport Surface Detection Equipment): SMR.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and others.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? There is an Airside Driving Permit procedure on the job training and participation in theoretical and practical examinations.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? A Local Runway Incursion Prevention Plan.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:

6.2 Are your bird control training courses conducted by the Wildlife Control Team (all with university degree in life sciences) who work at the airport? There is an airside driving permit procedure on the job training and participation in the meetings of the International Bird Strike Committee in order to enhance their knowledge on problem solving. These members organise and provide training on annual basis to other airport personnel that supports wildlife management.

6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? At least one dedicated person, member of the Wildlife Control Team, monitors and records the wildlife activities on the airfields from the first to the last light, in frequent intervals according to the wild strike risks posed and applies measures whenever necessary. Additional personnel from the Airfield Services Department trained for applying wildlife measures is supporting the Wildlife Control Team 24 hours, when necessary.

6.4 What specialist equipment do you employ for bird control? (Please give relevant supplier/manufacturer): Equipment includes: Sound devices installed at 13 airport vehicles. They are self made based on car CD players and they broadcast recorded distress or alarm calls recorded in cooperation with university specialists, and also digital loud sounds; 2 portable sound devices broadcasting distress calls purchased from aUoYSTuST Systems Limited (U.K.); 4 shotguns firing both blank and live ammunition; 1 laser pistol AVAN DISSUADER purchased from Sea TECH (U.S.A.)

6.5 Do you carry out a bird strike risk assessment? Wildlife Strike Risk Assessment and Management procedures have been incorporated in the Aviation Safety Management Plan of the airport. Periodical wildlife strike risk assessment is conducted by the Wildlife Strike Risk Assessment and Management Committee in order to enhance their knowledge.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? There are manageable problems with insects, and small and medium mammals like rodents and foxes. Insecticides are applied at least once per year to reduce the populations of insects during the most critical period of their life cycle, rodenticide bait stations are used for rodents (further to the reduction of the populations of the insects), while trapping and relocation is used for foxes.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type: chassis (e.g., MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: AIR CRASH TENDER – ROSENBAUER PANTHER 8x8; CHASSIS: Type: MAN 38.1000 VFAE4/8x8, Engine: MAN V12 diesel engine, Euro 2, Output: 735 kW (1,000 HP) at 2,300 min-1, Capacity: Water tank capacity, material: 12,500 l, GPR Foam tank capacity, material: 2 x 750 l, GPR HP powder type: CF; Year of manufacture: 2000.

7.2 Future developments – there are plans to purchase or dispose of any equipment? Not in the near future.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes / Yes.

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 15 December - 30 March.

8.2 Average annual days of snow: Not Available (Snowing every 2 years).

8.3 Average snow depth: Not Available.

8.4 Maximum snow in 24 hours: Not Available.

8.5 Annual number of days of de-icing activities: Average 3-5 days monthly between December and January, occasionally February.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? For the Apron and landside approximately 65 per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing and other relevant winter equipment stating identity of each facility, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units; Schmidt TJS 630 4 units Schmidt CIS 4 units; Vehicle ACTROS MB2640 with Schmidt Airport Sprayer (ASP) 2 units; Vehicle ACTROS MB2640 with Schmidt plough and sprayer 1 unit; Vehicle UNIMOG Schmidt plough and spreader 2 units / Schmidt Large Snow Disperser (Volvo), Vehicle Tractor John Deere Schmidt plough 1 unit; Vehicle Kramer Schmidt plough 1 unit; Vehicle Sk151 Schmidt plough 2 units.

11. PROCEDURES AND METHODS

11.1 Please state how far you are of priority of snow clearing of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: According to prevailing weather conditions, ILS operation status priority at one Roy, adjusted Tew. At least three highest speed exits and Taxi lane towards MTB and STB.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Vehicles as above with snowblades, Unimog (Unimog, 3 units, 2 Tractors), Formation according to wind direction (mainly echielon).

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Approximately 45 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Clariant SAFEWAY KA HOT (liquid), and SafeWay SF (solid) as pre-wet.

12.2 Comment on storage capabilities of the chemicals which you use: Inside silos with closed doors.

12.3 Have you employed any special means to economise on chemical use? Not Available.

12.4 Do you have any other comments on experience with chemicals? Not Available.

12.5 Do you use other chemicals or sand on operational areas? Not Available.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Warning and forecast by Hellenic National Meteorological Service.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Not Available.

14. AIRCRAFT DE-ICING

14.1 Does your airport currently provide aircraft anti-de-icing operations? If so, please detail the method, brand of any equipment, number of units: The Athens International Airport Company does not provide aircraft de/anti-icing operations. There are 3 Ground Handling companies with relevant equipment, Total number of de/anti-icing trucks 5. De/anti-icing truck types: 3 trucks FMC Tempest II; 1
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De/anti-icing operations take place on each aircraft parking stand.
14.3 Is glycol recovered? If so, please state methods: The glycol is not recovered.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? SARSYS Friction Tester, SABA 9-5-Wagon Surface Friction Tester (SFT), 2 units.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? Not available.
16.2 Do you plan to purchase new equipment or retrofit existing equipment? Please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.

BASEL
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Basel Mulhouse Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.2 Landing aids for each RWY (e.g. CAT II): B,D,L and Q: CAT III; J,C,E,F,G,H,P: CAT I.

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome. Has your airport made any recent changes to its safety systems?”

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training of personnel, procedures and responsibilities by day.
   b) Inspection by airside, airport, and airline handling agency personnel: Inspection by airport personnel.
   c) Maintenance (use of sweeping, magnetic nets, rumble strips, FOD containers etc): Visual inspection (3x/day).
   d) Coordination of multiple agencies using airport (airlines, handling agents etc): Coordination in airport safety committee.

4.2 General: Are there any special systems or software solutions for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Ground radar from DGAC (French authorities).
5.2 Are any design or engineering changes being undertaken to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Paint, light procedure.
5.5 What is your current system for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For the airport’s operators a specific procedure for the traffic with training and examination.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as “no-penalty” reporting? Yes, we have.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Eliminate water source and control the vegetation.
6.2 Do you have your own standardised bird control training courses? Yes.
6.3 Are you bird control staff working on the airfield continuously, hourly, less than hourly? Hourly and on request.
6.4 What specialist equipment do you employ for bird control? (Please state relevant suppliers/manufacturer): Bird scaring from “STERELA”.
6.4 Do you carry out a bird strike risk assessment? Yes, a new risk assessment for next year.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes, with dedicated software.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Not anymore.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating:

   type of vehicle: chassis; (e.g. MAN); axles (4x4, 6x6); capacities (kg/ litre and type); year of manufacture: SIDES VIM 90: 9000 litres water, 1100 litres foam product, 250 kg powder, (6x6 year: 1995); SIDES VIM 90: 9000 litres water, 1100 litres foam product, 250 kg powder, (6x6 year: 1997); SIDES VIM 60: 6000 litres water, 900 litres foam product, (6x6 year: 2001).

7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes, one vehicle for the year 2011 and a second vehicle for the year 2013 are planned.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We have a Fire Training Simulator which will be operating for the year 2011. It’s small equipment, that’s why it’s not programmed to be available to other airports for training.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 15 November to 15 March.
8.2 Average annual days of snow. During the winter 2009-10: 28 days.
8.3 Average snow depth: Unknown.
8.4 Maximum snow in 24 hours: 50 cm in 2006.
8.5 Annual number of days of de-icing activities: Not concerned.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 20 airport-employed and 4 sub-contracted (for snow loading).

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units: 3 Schmidt CJS 914 SUPER II; 1 Schmidt airport sprayer, wideness 24m; 1 Aliproue truck with 1 STRATOS II (sprayer for mixed de-icer: solid and liquid); 2 Boschung Jetbroom with sprayer for liquid de-icer, wideness 12 m and snow plough; 2 Unimog with snow plough; 1 Aliproue de-icer; 1 Aliproue with snow plough; 1 sweeper Schmidt AS990 with snow plough; 1 Unimog with a V-blades; 1 turbine ROLBA 600; 1 REFORM Metrac H7 with a V-blades; Manual equipment.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: We have 3 teams: One for the runways and taxiways; one for the aircraft parking and passengers walkway near air aircraft, service road (access road for fuel supplier, for the technical services); one for the passengers access (public sectors); each team begin at the same time.
11.2 State the vehicles, formations and general method of runway, taxiway, apron clearance. All vehicles are ready for an intervention (de-icer’s and fuel’s) tanks and are full. All airport employed are training every year. For the general method, we begin with the main runway with 3 CJS after the closing of the airport. We keep on the main taxiway and we’re doing a friction test. We keep on the other taxiways and taxiways, and the finishing working at linking between runway and taxiway. If the temperature is low, and friction test are wrong, we’re spraying de-icer.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Without spraying de-icer: 1h15; with spraying de-icer: 1h45.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: We use 2 types: Solid de-icer: KEMIRA Clearway 65; Liquid de-icer: KEMIRA Clearway 1. During the last season, we used 148 000 litres of clearway 1 and 12.5 tonnes of clearway 65. In function of our experience with these products, we use the clearway 65 for the preventive operation before icing rain. We can use the clearway 65 in curative intervention when we have ice. We use the clearway 1 in all other weather conditions and if the temperature is very low (< -10°C).
12.2 Comment on storage capabilities of
the chemicals which you use: We have 2 tanks of 50,000 litres for the liquid de-icer and we store 6 tonnes of solid de-icer.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: We use always solid de-icer mixing with liquid in order to fix the solid on the ground. The ratio is 75% (solid) / 25% liquid.

12.4 Have you experienced any corrosion problems with de-icers? All our installation and service’s equipment are in inox steel or in composite materials.

12.5 Have you employed any special means to economise on chemical use? For the spraying on the runways and taxiways, our equipment has got 3 ranges of spray nozzles. The height of these spray nozzles is 20 cm. So, compared with a classic sprayer with many disc, we have no influence of the wind.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or sand on operational areas? We use salt on the direct approach roads.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems, and number of units: No.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Not concerned.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-/de-icing? No.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? On the parking area.

14.3 Is glycol recovered? If so, please state methods: Not concerned.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? We have got 2 friction testing SARSYS, 1 tapetremeter.

15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? No.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: We replace our equipments in 2015.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment which you would like to sell? No.

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**BILLUND**

**Billund Airport**

**PART 1: GENERAL AIRSIDE SAFETY**

1. AIRPORT NAME: Billund Airport

2. MOVEMENT AND MAINTENANCE DATA:

2.1 Please list the identities of primary operational facilities and the surface areas. (For example RWY 18/36 153,000m²: RWY 09/27, 137,700 m²; TWY’s 142,160 m²; Apron South 61,790 m²; Apron North, 100,000 m²

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aero-drome operators: The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No specific change has been made.

4. FOREIGN OBJECT DAMAGE (FOD)

4.1 Describe your airport’s programme to control FOD in terms of:

- a) Training: Billund Airport is using a team of fire and rescue personnel who are making the runway inspection at least twice a day. Training is done ad hoc

- b) Inspection by airline, airport, and airplane handling agency personnel: Inspectors are done by the airport.

- c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Maintenance is done with use of sweeping when necessary.

- d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): No multiple agencies.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Billund Airport does not have software solutions at the moment.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Radio communication.

5.2 Are any design or engineering changes being undertaken to eliminate perceived hazards? As soon any hazard has been perceived, engineering moves will be taken.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDX-E, the Model X Airport Surface Detection Equipment): No specific safety device such as A-SMGCS, AMASS is currently employed.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Billund Airport is using wig-wag at the entrance of the runway and signs and lighting, and markings painted on the taxi’s “RWY 09/27”.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Billund Airport have made a training program for all staff, who are working at the airport (excl. pilots) and specific for the staff who has to work in the manoeuvring area.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no penalty’ reporting? According to the Danish Law, all “near-miss” and runway incursion will be reported to CAA Denmark and to the Airport Safety Management. The reports will also be discussed in the Runway Safety Team.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? We aim at employees to have given permission to use bird control training courses, apart no no special training.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? We are on the runway less than each hour, however as needed.

6.3 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer: Our supplier is Østjysk Våbenhandel (Huntinglife) and our firearm is a sporting gun marked Simson Suhl cal. 12. The rifle is a Baikal cal. 22 mm, and apart from these we have a dummy pistol.

6.4 Do you carry out a bird strike risk assessment? Risk assessment is included in the yearly report from the hunting consultant.

7. CRASH FIRE RESCUE

7.1 Do you have details of vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: One Toyota Landcruiser 2005, with a 4.2 litre engine, used by the Fire-Officer in command. Two Simba with a Titan TR 39 816 6x6 chassis, 12 cylinder 880 hp acceleration engine, a 8 cylinder 250 hp pump engine. Equipment on the vehicles is Rosenbauer. Fully loaded they weigh 36,000 kgs, and have a water capacity of 11,000 litres and 1,000 litres foam concentrate. Acceleration from 0-80 kph in 25 sec. 1987. Two Scammel Nubian 6x6, 8 cylinder engine of 500 hp, which is both acceleration and pump engine. Equipment on the vehicles is Rubeg. They weigh 24,000 kgs and have a water capacity of 11,000 litres and 1,000 litres foam concentrate. Acceleration from 0-80 kph in 36 sec. 1983 & 1987.

7.2 Future developments – are there plans to purchase or dispose of any equipment? We have ordered two new Panther 6x6 to be delivered in October 2011.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We are not in possession of a simulator, but we often frequent other airports that are in possession of a Mock-Up simulator 1/1.

**PART 2: WINTER SERVICES QUESTIONARE 8. RECENT WINTER CONDITIONS**

8.1 What is the designated period of winter readiness? November – April.

8.2 Average annual days of snow: 43.

8.3 Average snow depth: 21.8mm.

8.4 Maximum snow in 24 hours: 89mm.

8.5 Annual number of days of de-icing activity: 60 on RWY / 120 Aircraft De-icing.

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 11.
10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units. (For example: compact jet sweeper, Schmitz CJ 720, 4 units): Blower sweeper, Schöffling P12, 3.3m/23 km/h, 6 units; Snow plough, Mercedes, 3m/220 HP, 1 unit; Tractor/sweeper, Stensballe, 3m, 2 unit; Tractor/Brushes, Volvo 320, 2m; Snow blower, Beilich Hs 230, 1600 T/h, 1 unit; Snow blower, Schmitz VF3, 2000 T/h, 3 unit; Tractor/Brushes, Darline, 2.6m, 1 unit; Tractor/brushes, Kubota, 1.5m, 1 unit; Sand, Epeke Jm 35, 1m, 1 unit; Sand spreader, Epeke SH12000, 2m, 1 unit; Tractor/plough, Partner, 2.5m, 1 unit; Tractor/ plough, Stensballe, 2.5m, 1 unit, Loader, Volvo, 2.5 m3, 1 unit, Wheel Loader, CASE 695, 2.5 m3, 1 unit; Snow plough, Aviform, 4.6m/3000 m3/h, 1 unit; Solid De-icer, Combi 4500 2T, 15m/30km/h/3 ton, 1 unit; Sand spreader, Rational MT 400, 1 unit; Friction tester, Skiddometer BV-11, 1 unit; Truck with 5m High Speed Plough, 1 unit; Wheel Loader with 5m moveable snow plough, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please list snow clearing of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: 1. RWY 09/27 (+ Fire & Rescue road) including by Delta / Kilo, 2. TWY Frottoir, 3. Apron, 4. TWY’s Juliett, Alfa, Charlie, Bravo, Golf, 5. Other. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Snow ploughs from the edge of the runway and across the centre line to a distance of about 8m from the opposite runway edge, then a snowplough ploughing from this edge, which will leave the snow in a bank. Snow banks will be removed by blowers. If wind is calm, and deposit small, the removal will be initiated from the centre line. If the runway is covered by snow, the snow ploughs move snow clearing from air- craft to open area, then it is moved away with loader. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 35 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: de-icing operations? if so please state vehicle or other equipment stating purpose, manufacturer and number of units: Liquid de-icer, own, 23m/6000 L., 1 unit; Mu / VESTERGÅRD, 11m/5600 L., 1 unit; Merklo, 13.5m/6000 L., 2 units (we just received one new BETA / VESTERGÅRD). 12.3 Is glycol recovered? If so, please state methods. De-ice platform with recovery tank. From the tank the glycol is pumped to a mobile tank, and transported to the municipal sewage treatment plant.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Ice warning system, own construction. Sensors: 4 rwy surface-temperature, Air temperature 1, Dew-point 1, Anemometers 1. Central monitoring unit: PC with own software. All temperatures are updated every minute, and are graphically displayed for the last one hour on the monitor. PC with connection to DMI (the Danish Meteorological Institute’s system for road ice Control). Monitor with radar area view, who is presenting clouds with precipitation.

13.2 Have you plans to purchase further ice warning systems and if so which model? No.

13.3 Comment on your experiences and benefits of ice warning systems: It saves chemicals and is a very efficient tool.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so please state vehicle or other facility manufactures, and number of units: Liquid de-icer, own, 23m/6000 L., 1 unit; Mu / VESTERGÅRD, 11m/5600 L., 1 unit; Merklo, 13.5m/6000 L., 2 units (we just received one new BETA / VESTERGÅRD). 14.3 Is glycol recovered? If so, please state methods. De-ice platform with recovery tank. From the tank the glycol is pumped to a mobile tank, and transported to the municipal sewage treatment plant.

15. FRICITION TESTING

15.1 What model(s) of friction tester do you use? Skiddometer BV-11.

15.2 Have you any comments on the reliability of friction indexes? None.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? No.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

BREMEN

CITY AIRPORT BREMEN

PART 1: GENERAL AIRside SAFETY

1. AIRPORT NAME: Flughafen Bremen GmbH

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other: RWY 09/27: 91,800m². RWY length: 2040m. RWY width: 45m, TORA: 2040m. TWs A, B, C, D, E, F, G, H: 83,133m². Aprons: 155,670m².

2.2 Landing aids for each RWY (e.g. CAT II): RW 09: CAT IIIb, RW 27: CAT II.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No changes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:

a) Training: Staff concerned with removal of FOD objects as well as inspecting the movement areas are trained on the job (on the job training).

b) Inspection by airline, airport, and airplane handling airport personnel: Inspections are done.

c) Maintenance (use of sweeping, magnetic bars, rumb- le strips, FOD containers etc): Airport uses sweepers.

d) Co-ordination of multiple agencies using airport (air- lines, handling agents etc): Coordination and reporting done by airport duty manager at airport traffic center.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No special software in use for FOD control.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled and coordinated by the local ATC (ground). Ground handling vehicles are monitored and controlled by software solutions.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Apron parking-positions and taxiway- markings to eliminate potential pilot confusion about taxi directions. Follow me-vehicles used also.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Aircraft movement control during low visibility operations (CAT II / CAT III) is accomplished by an active taxiway lighting guidance system with intermediate holding position markings and lights, stop bars and induction resonances.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, light- ing and other lower-cost technologies: Mark- ings, signage and lighting installed inlai. ICAO ANNEX 14. RWY guard lights are installed.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, aircraft vehicle operators, and other people who work at the airport? Yearly Training for mechanics, aircraft vehicle operators, and other people who work at the airport (instructions, wireless-communications etc.). Airport duty manager at airport traffic center perform yearly training sessions about airport move- ment areas for authorities like police, MET service personnel and other service personnel etc.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Daily-general-reports. Daily-general-reporting procedures are used.

6. BIRD AND WILDLIFE CONTROL
6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.
6.1 Do your staff (or recognised bird control training courses)? Yes, internal trainings (on the job training).
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously. All bird control staff are employed by the airport and familiar with the area and airport procedures.
6.3 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer: Bird control is using by approximately 48 stationary shotguns and auxiliary pyrotechnics.
6.4 Do you carry out a bird strike risk assessment? Once a year, audited by the Davvl organization.
6.5 Do your staff log all their bird control activities? Yes, internal trainings (on the job training).
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Wild rabbits. Control by state approved hunting on a yearly basis daily / weekly monitoring.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture: ELW W Sharani 4x4 1998; ELW Toyota RAV 4 4x4 2006; ToLF 2000 2000kg Powder MAN 6x6 1996; Flugut: 8x8 2000kg Powder MAN 8x8 1993; FLF 60/80 9000 litre Water/1000 litre AFFF Man 8x8 1988; FLF 60/90 9000 litre Water/1000 litre AFFF MAN 8x8 1988; FLF 60/90 11 9000 litre Water/1000 litre AFFF MAN 8x8 1988; FLF 60/90 6000 litre Water/600 litre AFFF MAN 6x8 1984.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No...
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Training Simulator Training procedure external to Rotterdam and FRA.

PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? (Oct.) / Nov – Mar / (Apr.)
8.2 Average annual days of snow: 20 days.
8.3 Average snow depth: 2-4 cm.
8.4 Maximum snow in 24 hours: 25 cm.
8.5 Annual number of days of de-icing activities: 30-50 days.
9. WINTER ORGANISATION
9.1 Have you employed permanent or sub-contracted winter services personnel at all? Ca. 15. Sub-contracted winter services personnel on request only.
10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJ 720, 4 units): 5 Airblast-Snow-Sweepers (Schörring P17B) towed by 4 Trucks (Mercedes-Benz, Typ 1928, 4x4) and 1 Truck (MAN TGA 18.350 4x4 BLS, with Snow Ploughs (Schmidt SM) each. 2 Trucks (Magirus 4x4, Mercedes-Benz 4x4) with Snow Ploughs. 1 Snow-Blower Unimog 1300 4x4 / Schmidt Turbostream TS). 1 De-/Anti-Icing-Units (iveco 330-30H, 6x6 / Küpper-Weisser Multi-De-Anti-Ice, 6m³, Fluid, 6m³); Solid. 1 De-Icer – Unit (iveco 330-30, 6x6 / Küpper-Weisser, 14m³ Fluid). 1 Single-Rotation-Sprayer (MB UX100, 4x4 / Küpper-Weisser Typ SD 95, 1,3m³). 1 Single-Rotation-Sprayer (MB 300GD, 4x4 / Küpper-Weisser Typ SD 95, 1,3m³). 1 Truck, Sander 5m³ (Magnus-Deutz M320D15 / Epoke). 2 SKH, Skioddomet Bv 12 with Computer MI 90. 1 TAM.
11. PROCEDURES AND METHODS
11.1 Please state here order of priority: of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: RWY 09/27, 2. TWYS A, F, C (CATIII-TWYS). 3. Arons (Ramp 1, Ramp 2). 4. Other TWYS. 5. Other Movement areas.
11.2 State the vehicles, formations and general methods of snow clearance: Snow Plough + Snow-Sweeper - Formation, first snow removal, second De-/ Anti-Icing-Fluid. General prefer De-Icing-Procedures in Prevention., for all movement areas.
11.3 After moderate snow, how quickly do you expect to achieve "black top" of runway? max. 30min.
12. EXPERIENCES WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: YARA Aulforn L50. YARA Aulforn S Solid. Very good effectiveness! (low temp, and holdover time).
12.2 Very effective with short reaction time; holdover time is weather dependent after application.
12.3 Comment on storage capabilities of the chemicals which you use: Max. 80 m³ Fluid (L50) and 5 – 20 to Solid.
12.4 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Mixing – Rate 80% Solid + 20% Fluid. Good have you experienced any corrosion problems with de-icers? No, we have not.
12.5 Have you employed any special means to economise on chemical use? We, have user information how to handle Anti- / De-Icing Procedures in the BRE: Winteroperation – Handbook. Personnel trained yearly on handling and economic usage of fluids and solids.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? Sand: in extreme situations like especially under wet conditions, sand: in extreme situations. Sand: in extreme situations.
13. ICE WARNING SYSTEMS
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems.
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-ice operations? If so, please state vehicle or other facility manufactures, and number of units: 3 Units Vestergaard Elephant. Co.: The aerodrome are always evaluating potential for new vehicles and equipment.
14.2 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No comment.

15. FRICITION TESTING
15.1 What model(s) of friction tester do you use? SHK (Skidometer High Pressure) BV 11 with Computer MI 90.
15.2 Do you have any comments on the reliability of friction indexes? Frikktoneffektpron – Reporting in conditions like especially under wet conditions, which means when the runway is contaminated with wet ice, wet snow or slush. Under such conditions, to be reported to ATC / pilots using only the terms GOOD, MEDIUM or POOR, corresponding to the figures 5, 3 and 1 in the SNOWTAM item H.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? No changes intended for now.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details including potential for new vehicles and equipment.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No comment.
16.4 Do you have any winter services equipment which you would like to sell? No, we have not.

BRUSSELS AIRPORT COMPANY

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Brussels Airport
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWL length (or lengths), Take Off Run Available [TORA], RWL width, shoulder widths, total apron area, ramp area, other TWYS.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 02 – 2987m x 50m; RWY 07l – 3638m x 45m; RWY 07r – 3211m x 45m; RWY 25l – 3211m x 45m; RWY 25r – 3638m x 45m.
2.3 Tvws: With 30m with 10m shoulders. Main apron: 1,660,000sqm; Cargo apron: 170,000sqm; General Aviation apron: 21,000sqm.
2.4 Landing aids for each RWY (e.g. CAT II): RWY 02 – CAT II; RWY 07l – CAT II; RWY 07r – CAT II; RWY 25l – CAT III B; RWY 25r – CAT III B.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that the “Aerodrome operator shall establish a Safety Management System for the aerodrome.”
3.2 Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Implementation of Safety Audit program; Change management; Runway Safety program and prevention of runway incursions course; Revision of SMS procedures; Revision of chapter Communication in Safety Management System Manual; SMS introduction training for new hires and all internal operational services.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training; Promotion and prevention campaigns, safety newsletters including lessons.
11. Please detail your habitat management plan and to use in defence in case of lawsuits): yes.
6. Are your bird control staff working on the
6.1 do your staff attend recognised bird con-
trol training courses? planned for 2010.
6.2 are your bird control staff working on the
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troll training courses? planned for 2010.
6.2 are your bird control staff working on the
6.1 do your staff attend recognised bird con-
troll training courses? planned for 2010.
14.3 Is glycol recovered? If so, please state methods. No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SfH Saab 9.5.

15.2 Have you any comments on the reliability of friction indexes? Worldwide standardization of RWY friction values is necessary.

16. FUTURE DEVELOPMENTS

16.1 Are you planning to change any of your airport’s methods? We try to improve our procedures every year (workshops and SMS). No.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment which you would like to sell? No.

BRUSSELS SOUTH CHARLEROI

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Brussels South Charleroi Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area: Total RWY length: 2595m, TORA: 07/2595m – 25/2450m, RWY Width: TWY Nand 5: 23m. No shoulder width on runway Total Apron Area: 140,000sqm.

2.2 Landing aids for each RWY (e.g. CAT II): Landing Aids: RWY 25 / CAT III – RWY 07/SALS.

3. BIRD AND WILDLIFE CONTROL

3.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Every year a risk study is done by the safety manager to determine the kind of animal species we must watch. In that report, The Safety manager analyses and evaluates the number of collisions between birds and Aircraft. A number of recommendations are done and dispatched to all departments.

3.2 Do your staff attend recognised bird control training courses? No, they have a long experience and they are briefed during aud- it by specialists (twice since 2004).

3.3 Are you using any solid equipment do you employ for bird control? Yes, we use spreader solid de-icer tank; 1 snowplough adjustable to truck unimog; 1 spreader solid de-icer (capacity: circa 1000kg); 1 sprayer of de-icing liquids (capacity: 6000l); 1 sprayer of de-icing liquids and solids (capacity: 4400m³); 1 sprayer of de-icing liquids and solids (capacity: 8000m³); 1 truck with miling cutter and spreader solid de-icer tank; 1 snowplough adaptable to truck unimog; 1 spreader solid de-icer (capacity: circa 1000kg); 1 sprayer of de-icing liquids (capacity: 6000l).

3.4 Do you carry out a bird strike risk assessment? Yes, the|Coordinated system is planned at 2011.

3.5 Have you employed any special means to economise on chemical use? No.

3.6 What specialist equipment do you employ? As models of friction tester, we used a murometer on a saab vehicles

4. WINTER MANAGEMENT

4.1.1 What model(s) of friction tester do you use? As models of friction tester, we used a murometer on a saab vehicles

4.2.1 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing on parking area.

4.2.2 What model(s) of friction tester do you use? As models of friction tester, we used a murometer on a saab vehicles

4.3 Is glycol recovered? If so, please state methods: Glycol recovered with Boschung vehicle.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? As models of friction tester, we used a murometer on a saab vehicles

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? No.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Each year, at the end of the winter season, we adapt our experience and analysis issues for next year. We project to extend the Apron and get in the future more aircraft parking, we project to purchase new equipments as 3 sweeper-blowers with snow plough, 1 spreader and 1 truck with miling cutter.

16.3 Your currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment which you would like to sell? No.

BUDAPEST

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Budapest Ferihegy International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area: Total RWY length: 2595m, TORA: 07/2595m – 25/2450m, RWY Width: TWY Nand 5: 23m. No shoulder width on runway Total Apron Area: 140,000sqm.

2.2 Landing aids for each RWY (e.g. CAT II): Landing Aids: RWY 25 / CAT III – RWY 07/SALS.

3. BIRD AND WILDLIFE CONTROL

3.1 The icao manual on certification of aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The SMS manual was published at the beginning of 2010. As a part of the system all relevant procedures are checked by risk analysts. The first review of the system is planned at 2011.

3.2 Are you planning to change any of your airport’s methods? We try to improve our procedures every year (workshops and SMS). No.

3.3 Do you have any winter services equipment which you would like to sell? No.

3.4 What are the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area: Total RWY length: 2595m, TORA: 07/2595m – 25/2450m, RWY Width: TWY Nand 5: 23m. No shoulder width on runway Total Apron Area: 140,000sqm.

3.5 Are you planning to change any of your airport’s methods? No.

3.6 Do you plan to purchase new equipment or vehicles? If so, please provide details: Each year, at the end of the winter season, we adapt our experience and analysis issues for next year. We project to extend the Apron and get in the future more aircraft parking, we project to purchase new equipments as 3 sweeper-blowers with snow plough, 1 spreader and 1 truck with miling cutter.

3.7 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

3.8 Do you have any winter services equipment which you would like to sell? No.

4. WINTER MANAGEMENT

4.1 Are you planning to change any of your airport’s methods? We try to improve our procedures every year (workshops and SMS). No.

4.2 Are you planning to purchase new equipment or vehicles? If so, please provide details: Each year, at the end of the winter season, we adapt our experience and analysis issues for next year. We project to extend the Apron and get in the future more aircraft parking, we project to purchase new equipments as 3 sweeper-blowers with snow plough, 1 spreader and 1 truck with miling cutter.

4.3 Do you currently have equipment or other products on order? If so, please provide details: No.

4.4 Do you have any winter services equipment which you would like to sell? No.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:

a) Training: FOD awareness campaign periodically, FOD leaflets are circulated periodically. The FOD is a part of all kind of movement area safety trainings,
b) Inspection by airline, airport, and airline handling agency personnel: Cleansweep projects in every week; and regular area inspection by the Duty Airside Manager and the Apron Supervisor.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Regularly sweepings; Set up containers at every stand. The sweeper machine is equipped with magnetic bars, and co-ordination of multiple agencies using airport (airlines, handling agents etc); Weekly Terminal/airside meetings to inform the parts and defines the actions will be taken.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Magnetic collector for the sweepers.

5. RUNWAY INCURSION PREVENTION

5.1 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? All runway holding position is indicated in these processes? Further, do they safeguard the operations of RGIs, permanent stop bars on rets.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? All runway holding position is indicated in these processes? Further, do they safeguard the operations of RGIs, permanent stop bars on rets.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment); No.

5.4 Comment on the use of any innovative warnings or guidance systems (e.g. lights, signs, lighting and other low-cost technologies: Airfield safety publications; High visible signs; NO ENTRY markings; H24 operations of RGIs, permanent stop bars on rets.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, air-vehicle porters, and other people who work at the control tower? Manual area inspection and maintenance procedures are in force. Awareness campaigns, trainings for mechanics and maintenance workers.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no penalty’ reporting? The data sharing and joint investigation process is established. The information is continuously shared between partners as a part of regular LRST meetings.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your CCR vehicle inventory stating: Trailing the CFR vehicle inventory stating: Vehicle type/number/manufacturer: 1) Compact jet sweeper, Schmidt, CJ 720, 4 units; 2) Sweeper machine is equipped with magnetic bars.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? During operational hours a dedicated staff on duty, parallel with a Falconary team. Night time the Airfield team is responsible for monitoring and taking actions.


6.4 Do you carry out a bird strike risk assessment? Twice a year by internal audit.

6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem; in case of a case in case of a lawsuit): Yes detailed bird log is established, including all kind of activities, actions.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Yes, rabbits.

7. CRASH FIRE RESCUE

7.1 Please detail your CCR vehicle inventory stating: Trailing the CFR vehicle inventory stating: Vehicle type/number/manufacturer: 4) Trailing the CFR vehicle inventory stating: Vehicle type/number/manufacturer: 1) Compact jet sweeper, Schmidt, CJ 720, 4 units; 2) Sweeper machine is equipped with magnetic bars.

7.2 Future developments – are there plans to purchase or dispose of any equipment? 2+1 Crash tender will be purchased.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? An operational area fire unit non used ACFT help for the training but a new MOCKUP is planned.

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? According to Winter Services Manual the designated period is between 15th of November and 15th of March.

8.2 Average annual days of snow: 25-30 days.

8.3 Average snow depth: 10cm.

8.4 Maximum snow in 24 hours: 25cm.

8.5 Annual number of days of de-icing activities: 65-75 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 6-53.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJ 720, 4 units): 10X SCHMIDT-HERCULES JET SWEEPER, 10X VEDD SCHERING Sweeper L/Blower, 5X SUPRA 4000, 2X SCHMIDT TS-4, 2X NDD, 10X UNIMOG.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Duty Airside manager will decide the priorities on airside following the list below: 1) Active RWY (13L/31R), Belonged TWYS of RWY; 2) Aprons 2AB/Apron 1, 3) Other TWYS; 4) Maintenance area; 5) Landside, car parks.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The conga-line with 5-6 sweeper/blower open the cleaning procedures on the designated RWY and on the TWYS. The snow is pushed from the centerline to the side of the surface with respect for the edge light system. Since the runways are 60m wide, a number of two units are required in order to clear the entire surface. On the same time 3-5 Jet Sweeper clean the designated blocks of the apron area and the preferred TWYS. Closing the cleaning procedure NDD sprayers carried out if necessary. The final step is the friction measuring process before reopen the runways or taxiways.

11.3 Are you required to have dedicated de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No, the handling agents take care of the aircraft de-icing on the airport.

11.4 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing on parking area mainly, in case of remote de-icing is needed due to short hold over time, de-icing is done at Holding Bay B5 in case 1-31L, and on the stands are close to runway 31R.

11.5 Is glycol recovered? If so, please state methods: No glycol recovery process.

15. FRICITION TESTING

15.1 What model(s) of friction tester do you use? 2X ASFT (SABB).

15.2 Have you any comments on the reliability of friction index? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Due to reduced width of runways we have to focus on the snow-blower activities parallel with the sweeping process.

16.2 Do you plan to purchase new equip-
Burgas Airport

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Burgas Airport

2. MOVEMENT AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, others): RWY 04/22, 3200 x 45m, Shoulder 5m, TORA 3200m, TODA 3260m, ASDA 3260m, PCN 60/R/B/T/Concrete, Total apron area = 195 250sqm. Construction works in progress. Estimated apron area after extension = 222 885sqm.

2.2 LANDING aids for each RWY (e.g. CAT II): RWY 22 CAT II, ILS category I; RWY 04 CAT II, Co-located VOR/DME.

3. MOVEMENT AND MANOEUVRING AREA DATA

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Burgas Airport has established and implemented a Safety Management System since 2007. The SMS structure and goals are in accordance with the ICAO Manual on Certification of Aerodromes. Safety Manager nominated. Aerodrome manual is available. An Airport Safety Committee has been established. Safety relevant processes have been identified and documented in an Accidents/Accidents, Spillages, Bird strike and presence of animals in maneuvering areas, Damages to aircraft or to airport facilities, Jet-blast, Incorrect service operations, including refueling and catering procedures, Wrong procedures of aircraft movements on the ground, Visual control from ATC Tower. All vehicles are equipped with radio communication devices to contact with ATC Tower.

3.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes. All markings, signs and lighting systems are designed according ICAO Annex 14. Incursion hot spots have been identified and published. Hazards will be eliminated with all necessary changes.

3.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No specific safety devices are currently employed.

3.4 Describe your airport’s programme or software solutions you employ for FOD control? (Please specify product name and add any comments): All FOD findings are recorded andairport field maintenance service is advised accordingly. A software is used for statistical purposes to check the stored recorded values.

4. RUNWAY INCURSION PREVENTION

4.1 Describe your airport’s programme or software solutions you employ for FOD control? (Please specify product name and add any comments): All FOD findings are recorded and airfield maintenance service is advised accordingly. A software is used for statistical purposes to check the stored recorded values.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle activity in the movement area? Yes, to purchase new high speed sweepers or vehicles. No, only in 2012.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No specific safety devices are currently employed.

5.4 Describe your airport’s programme or software solutions you employ for FOD control? (Please specify product name and add any comments): All FOD findings are recorded and airfield maintenance service is advised accordingly. A software is used for statistical purposes to check the stored recorded values.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? Yes.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? No.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier or manufacturer): RWAY are equipped with electronic Bird Repellent System: Phoenix Wailer, Bird n megablaster. Bird repellant laser torch “LEM 50”-1. The “LEM 50” laser torch is conceived to generate a green laser beam in order to startle the birds. This material can bring a help to the prevention of the bird strike risk. Automatic Scarecrow working with Propane or Butane Gas – “GUARDIAN”-2. Our most effective device due to its automatic rotating system which allows it to vary the direction of the detonations in opposite directions. Its telescopic tripod allows the height to be regulated from 1,60 to 2,30 m, achieving widespread sound and a larger protected area.

6.4 Do you have any winter services equipment which you would like to sell? No.

6.5 Do your staff log all their bird control activities? Yes.

6.6 Do you carry out a bird strike risk assessment? Risk assessment is carried out monthly by out Safety Department.

6.7 Do your staff log all their bird control activities? (To manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes, all aspects of bird control are documented in details.

6.8 Does your airport maintain records with a powerful flash of reflected light from the sun, or even a full moon. Birds Repellent Laser Torch “LEM 50”-1. The “LEM 50” laser torch is conceived to generate a green laser beam in order to startle the birds. This material can bring a help to the prevention of the bird strike risk. Automatic Scarecrow working with Propane or Butane Gas – “GUARDIAN”-2. Our most effective device due to its automatic rotating system which allows it to vary the direction of the detonations in opposite directions. Its telescopic tripod allows the height to be regulated from 1,60 to 2,30 m, achieving widespread sound and a larger protected area.

7. CRASH FIRE RESCUE

7.1 Please detail your CRF vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (light/tête with engines: Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam 1500 l; Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam 1500 l; Panther, Rosenbauer, 6x6 CA-05 Stinger, 11800 water, foam 1500 l. 7.2 Future developments – are there plans to purchase or dispose of any equipment? No. 7.3 If your airport possesses a Fire Train...
8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 15 Nov-30 Apr.

8.2 Average annual days of snow: 14 days (based on statistics of last 20 years).

8.3 Average snow depth: 5cm.

8.4 Maximum snowfall: 10 to 30 cm.

8.5 Annual number of days of de-icing activities: 20–30 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 1 technician, 7 drivers on shift, 5 drivers stand-by. Sub-contracted winter services personnel on request only.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units. For example: compact jet sweeper, Schmidt, CJS 720, 4 units; Universal machine TGM 18,240 – 2 units, Unimog W 7 2 dual engine snow sweeper – 2 units, Ploß HR 6 – 1 unit, Ploß H Rules and compact sweeper Mercedes Atego – 1 unit, Fertilizer – spreading machine – RCP – 25 – 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons) stating: the identity of each facility: Runway, Taxiways, A, C, H, Apron, then all other areas.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Depending on current weather situation, wind direction and velocity–2 snow sweepers will clear the RWY along the whole width.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 2 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: SAFENAY R AS NOT will be used for second time this year.

12.2 Comment on storage capabilities of the chemicals which you use: Storage is no problem. We expect to use approximately 50 tons liquid and 30 tons solid chemicals.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: We use separately de-icers, for example mixing ratios with liquids, “blow-away factor” etc: We use separately de-icers, for example mixing ratios with liquids, “blow-away factor” etc: We use separately de-icers, for example mixing ratios with liquids.

12.4 Have you experienced any corrosion problems with de-icers? We haven’t had any corrosion problems.

12.5 Have you employed any special means to economise on chemical use? Yes. We purchased and received one runway sprayer and compact sweeper. Mercedes atego – 1 unit, Fertilizer – spreading machine – RCP – 25 – 1 unit.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s ports? Depends on the change of technology and methods.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. No. We have just received one runway sweeper and compact sweeper.

16.3 Do you currently use equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment which you would like to sell? No.

CHISINAU

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: International Airport Chisinau

2. MOVEMENT AND MANOEUVURING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY Designator – 08/26. Total RWY length 3590m x 45m, 59 R/A/W/T Concrete. TORA for RWY 08/26 – 3590m, TODA for RWY 08/26 – 3590m, ASDA for RWY 08/26 – 3590m, LDA for RWY 08/26 – 3590m. Total apron and ramp area – 110000 m2.

2.2 Landing aids for each RWY (e.g. CAT II): RWY 08 – CAT II ILS LHD, RWY 26 – CAT-I ILS LHD.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by international SMS audits? Yes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:

a) Training: Training of personnel every 6 months. b) Inspection by airline, airport, and airline handling agency personnel: Inspections by airport – every three hours. c) Maintenance (use of sweeping, magnetic bars, rumbler strips, FOD containers) by airport personnel: Training by compact jet sweeper, Schmidt, CJS 914, 3 units; Twice a week use of magnetic bar; FOD containers. d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Yes. 4.2 General: Are there any specific systems or software solutions you employ for FOD control? (Please specify product name and general “node”): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Markings, Signs and Lights on site.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.

5.3 What safety devices are currently employed? (e.g.: SMGCS; Airport Movement Area System – AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): SMGCS.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Additional signs.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training and testing of airport vehicle operators every 6 month.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “punitive” primary goal of “punishing” reporting? Yes, according to Chapter 5 of Aerodrome Manual and Recommendations of Doc 9895.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.

6.2 Do your staff attend recognised bird control training courses? Yes.

6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.

6.4 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer) Smooth-bore guns, recorded distress calls / Bird Gard SUPER PRO PK4.

6.5 Do you carry out a bird strike risk assessment? (e.g.: Aviation Risk Management System) Yes.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Our airport has problems with dogs, rabbits and foxes. RWY, TFW and Apron incursions.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. “Mercedes Benz” 3350, axles 6x6, 9000 litre of water and 1,200 litre of foam solution, 500 kg dry chemical powders. Year of manufacture – 2008. 2 units.

7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes. The car of fast response, axles 4x4.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Doesn’t possess any FTS.
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. No.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? On the parking area.
14.3 Is glycol recovered? If so, please state methods. No.

15. FRICITION TESTING
15.1 What model(s) of friction tester do you use? ASFT, AFM-2, skiddometer BV11.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No.
16.4 Do you have any winter services equipment which you would like to sell? No.

17. PERSONAL DATA
17.1 What is the duration of your present employment in the airline industry? 5 years.
17.2 Have you ever experienced any blow away factor? No.
17.3 Have you ever experienced any corrosion problems with de-icers? No.
17.4 Have you ever experienced any technical issues with de-icing equipment? No.

18. AIRCRAFT DE-ICING
18.1 Do you currently have a dedicated de-icing position? No.
18.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No.
18.3 Is glycol recovered? If so, please state methods. No.
18.4 Have you any comments on the reliability of friction indexes? No.

19. ACKNOWLEDGEMENT
I, [Name], hereby confirm that

19.1 I have read and understood the instruction above.
19.2 I have completed and signed the above form.
19.3 I have submitted the above form to the [Airport Name].

[Signature]
[Date]

[Stamp]
[Paragraph]

[Address]

[Telephone]

[Fax]

[Email]
7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (agitator and type); year of manufacture: 1. Crash tender, Volvo FM 12, 6x6, 12,000l water and 1200L RE-Healing Foam, 80 kg CO2, 2004; 1 Crash tender, Volvo FM 12, 6x6, 12,000l water and 1200L RE-Healing Foam, 2003; 1 Crash tender Rosenbauer Panther 6x6, 12,500l water, CAFS, 1200L RE-Healing Foam, 2007; 2 Crash tender Rosenbauer Panther 6x6, HR; HR Type 11,000l water, 100VX RE-Healing Foam, 225 kg dry chemical, 2008; 1 Multi-vehicle, Volvo FL10, 2400l water, 100L RE-Healing Foam, 80 kg CO2, Rescue tools, 1995; 1 Fire chief vehicle, VW Tiguan 4 motion, 2008; 1 Incident Commander vehicle, VW caravelle Syncro 2001; 1 Secondary Incident Commander vehicle, VW Tiguan 4 motion, 2007; 1 Fire responder vehicle, (ems), VW Caravelle 2009; 1 Sea Rescue VW Transporter Syncro, 2005; 2 VW Touran (aux vehicles), 2008; 1 Vehicle with triage equipment, Mercedes 1622; 1 Rescue Stair, Ford Super Duty 550, 2010; 1 Sea Rescue boat, weight: 20 tons, engines: 1250hp, speed: 35 kn. Carrying inflatable life rafts pax capacity: 600, 2001; 1 Rescue boat, (ems), speed: 35 kn, 1000hp, special equipment: 42 kn, 2006; 2 Ea. Crash tender, Volvo FM 12, 6x6, 2004, 12,000l water and 1200L AFFF light water, 3; Ea Crash tender Rosenbauer Panther 6x6, 12,500 L water, 1200L AFFF foam, 2007. 2 Ea Crash tender, Volvo F12, 6x6, 1992-1993, 10,000l water and 1000L AFFF light water. Multi-vehicle, Volvo FL10, 1995, 2400l water and 50L AFFF light water. Rescue tools. 1 incident commander vehicle, VW caravelle 2009, Supervisor vehicle, VW caravelle 2002. Rescue chief vehicle, VW 4 motion, 2006, Rescue boat, weight: 20 tons, engines: 1250hp, speed: 40, 5 KN, 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes, we have a 767 Fire Training Simulator. All Danish airport fire services use the sim. 8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Nov-Mar. 8.2 Average annual days of snow: 21 days. 8.3 Average snow depth: 5-10cm. 8.4 Machine snow clearance: 50cm. 8.5 Annual number of days of de-icing activities: 60 days. 9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 45. 10. WINTER EQUIPMENT INVENTORY

10.1 Please detail your snow clearance and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units): 2 units Holder, 4 units John Dear, 2 units SAAB 9-5 friction, 2 units Caterpillar 972 G / 986 f, 1 units Komatsu WB97S-2, 6 units Lundberg, Sweeper: Juits Danline, 5 units Øveraasen RS200, 8 units Øveraasen SB470, 6 units Øveraasen RS400, Snow blowers: Juits Schmidt slinge ST5, Juits Øveraasen TV 110- 150-8255, 2 units Ostkhh H718B, Highspeed, 1 units Viking UTV, anti-icer units: 2 Dammspreader (40 Meter), 3 units NDO Stratos 50-36 MLN CS, 1 units Epoke kombi SW 4500.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: 1. “Runway-in-use” runway, taxiways and secondary aprons, roads and parking areas, with affiliated taxiways, de-icing platforms, apron and access roads from fire stations. 2. Second ILS runway with affiliated taxiways 3. Remaining. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: On runways and adjacent taxiways we normally use 12 sweepers, 2 blower and 2 multi de-icer. Runways are cleared in full length. A column of snow clearing equipment typically consists of a foreman in a leading car, 12 sweepers, 2 blower and 2 multi de-icer. To minimise operational disruptions, all operations on the runway system are coordinated by the snow clearance supervisor and TWR. The clearance operation is controlled by a foreman who maintain the radio contact with TWR. A cycle of snow clearing on a runway with adjacent taxiways, de-icing measures and friction testing may take from 20-30 minutes, depending on snow quantities, type of precipitation, runway-in-use, wind directions and speeds, etc. A small amount of snow the whole runway-width is cleared in one run. Normally, the column finishes half the runway-width all the way down to its end, and then returns, finishing the other half. Then the runway surface is checked by inspection foreman in a SAAB Friction tester, and then the column moves on to the adjacent primary taxiways. If the friction coefficient is below 0.4 on the surface, the foreman sprays the runways and taxiways. Then the next taxiways and adjacent taxiways are cleared and subsequently checked. APRON CLEARANCE: Snow clearance on aprons are coordinated between ATWR and the snow clearance supervisor, who is responsible for snowclearance on behalf of the airport, arranging the snow clearance operations in close contact with the handling companies and other operators. Snow clearance is led by a foreman, who coordinates the actions with ATWR and the snow clearance supervisor. The snow clearing team consist of 5-8 sweepers and 4-8 big ploughs and tractor brushes/ploughs. Snow is removed from the apron by contractors and transported to the snow dump. 11.3 After de-icing, how quickly do you expect to achieve ‘black top’ on the runway? 20/30 min. 12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: the chemical used, provide high efficiency and quick result. Aviform S-Solid shows less dust and better performance and low blow-away factor. It shows as well swift action and a good holdover time. 12.2 Comment on storage capabilities of the chemicals which you use: Liquid de-icer is stored in 2 x 55,000 liters tanks. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Aviform S-Solid is mixed 50–50 % with Aviform to avoid “blow-away” and provide high efficiency. Experience has shown, it is important to mix Aviform L50 and Aviform S in ratio 1:1. 12.4 Have you experienced any corrosion problems with de-icers? We have not experienced corrosion problems above normal, but corrosion control program is carried out. 12.5 Have you employed any new methods means to economise on chemical use? We keep de-icers down to a minimum, because of a forecast modul, VejEjr modul 5.22 gives us a god forecast 12.6 Do you have any other comments on experience with chemicals? We are testing the use of Aviform L25 – mix of L50 with 50% water for use in non-Airport operations. 12.7 Do you use other chemicals or sand on operational areas? In extreme conditions, the snow clearing supervisor can decide to spray Aviform on operational areas.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: The Ice Warning System of Copenhagen Airport – Kas-trup is a Vaisala system. The system consists of 28 surface sensors. Data is collected via TCP/IP network. Data is implemented in the national system for Road authorities in Denmark. Data is viewed via the internet. 13.2 Have you plans to purchase further ice warning systems and if so which model(s)? 24 hour forecast module is active and give good guidelines. Particularly the 4 hour forecast has made us able to predict black-ice and incoming snow. The result: is no delayed operations during winter. 14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. No, we do not have any special machines. 14.2. are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have dedicated de-ice positions 14.3 Is glycol recovered? If so, please state methods: Drainage system in connected with de-icing platforms. Used glycol is collected in tanks and transported to local authorities for use in their plants. No re-use at the airport. 15. FRICITION TESTING

15.1 What model(s) of friction tester do you use? 2ea.SFH Saab friction tester. 15.2 Have you any comments on the reliability of friction indexes? Full reliability. 16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Different methods, different patterns in the column of sweepers/snowblowers will still be tested to obtain more effective results. 16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Airside Operations is continuously looking at new vehicles and equipment.
1. Describe your airport’s programme to control FOD in terms of:
   a) Training: All airside pass holders have FOD awareness training as a part of Airside Safety course.
   b) Inspection by airline, airport, and airplane handling agency personnel: Regularly, two times per day (before airport opening and immediately after sundown) and before any movement of aircraft in case of absence of movements for more than one hour. In case of bad weather conditions more often checks are performed. Also, parking stands are checked every time before they are used.
   c) Maintenance (use of sweeping, magnetic sweeping, water containers etc): Sweeping, carpets, FOD containers.
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Safety promotion/FOD awareness theme is discussed on ASC meetings.
   2. General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual and radio communication method.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other low-cost technologies: None.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, aircraft vehicle operators, and other people who work at the airport? Airside Safety training is obligatory for all airside pass holders.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Because of increased Herring gulls activity on and in the vicinity of aerodrome, we have short and long term measures and procedures defined in Aerodrome Manual, chapter 4.12.
6.2 Do your staff attend recognised bird control and bird controller training? Yes.
6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? They are working continuously as a part of Rescue and Firefighting brigade.
6.4 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): 1 rocket pistol (Pistolet lanceur), 3 gas cannons (Guardian 2), pyrotechnics, shotguns.
6.5 Do you carry out a bird strike risk assessment? Yes, according to the data collected during daily monitoring activities.
6.6 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in case of lawsuits): Yes.
6.7 How are your airport has problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); year of manufacture (kg/litre and type); year of manufacture: 5,000 Kg/powder, year 1985. MAZDA – ZIEGLER PICKUP, 4,000 Kg/powder, bar, year 2009.
7.2 Future developments – are there plans to purchase further ice warning systems and if so which model(s)? No.
7.3 How are these issues being addressed? No.

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 31st October – 31 March.
8.2 Average annual days of snow: 1 - 2 days.
8.3 Average snow depth: 1 –2cm.
8.4 Maximum snow in 24 hours: 5cm
8.5 Annual number of days of de-icing activity: 10 days.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? No dedicated winter service personnel available.
9.2 In case that it is needed, gha ground support and achieved holdover times etc: urea, 1,000Kg
9.3 State which vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); year of manufacture (kg/litre and type); year of manufacture: 5,000 Kg/powder, year 1985. MAZDA – ZIEGLER PICKUP, 4,000 Kg/powder, bar, year 2009.
9.4 Future developments – are there plans to purchase further ice warning systems and if so which model(s)? No.
9.5 How are these issues being addressed? No.
9.6 Do you use sand or salt on apron area.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units): Snow plug 2 units, sweeper truck 1 unit, spreader (urea) 1 unit.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: 1-RWY (12-30), 2-TWY (B, C), 3-APRON (STANDS P8-P12).
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: They are not defined.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Since we have snow very rarely we do not have exact information but we expect to achieve it in 3-5 hours.

12. FRICTION TESTING
12.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other relevant winter equipment stating purpose, manufacturer and number of units: Yes, IECO – BLUMENBECKER 100E1, 1 unit.
12.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We do de-icing on the parking area.
12.3 Is glycol recovered? If so, please state methods: No.

13. FRICTION TESTING
13.1 What model(s) of friction tester do you use? AEC AB SYSTEM BV-11 Skidometer.
13.2 Have you any comments on the reliability of friction indexes? No.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other relevant winter equipment stating purpose, manufacturer and number of units: Yes.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We do de-icing on the parking area.
14.3 Is glycol recovered? If so, please state methods: No.

15. FUTURE DEVELOPMENTS
15.1 Are you about to change any of your airport’s methods? Yes, define snow cleaning methods, formations etc.
15.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
15.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
15.4 Do you have any winter services equipment which you would like to sell? No.

16. WINTER ORGANISATION
16.1 How are you about to change any of your airport’s methods? Yes, define snow cleaning methods, formations etc.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.
5. RUNWAY INCURSION PREVENTION

5.1 Have you implemented or monitored vehicle and aircraft movements on the ground?

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes.

5.3 Have you employed on ground personnel (e.g. FOD inspectors) to monitor movement of vehicles and airport equipment? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Area Safety System – AMASS.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: No changes.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people working on the airport surface?

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the "no-punishment" philosophy such as "no-penalty" reporting? Yes. Safety Meetings frequently.

6. BIRD AND WILDLIFE CONTROL

6.1 Do you have a bird control programme?

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? No.


6.4 Do you carry out a bird strike risk assessment? No.

6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Fox on the run, rabbits, sometimes wild boars.

7. CRASH FIRE RESCUE

de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: 10 Vestergaard “Elephant Beta” 8000 Litres.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Parking area depends on RWY in use. 14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1. What model(s) of friction tester do you use? SARSYS friction tester. 15.2. Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1. Are you about to change any of your airport’s methods? No. 16.2. Do you plan to purchase new equipment or other details: No. 16.3. Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No. 16.4. Do you have any winter services equipment which you would like to sell? No.

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: East Midlands Airport

2. MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway 09/27 is 2893m long and 46m wide and is constructed of grooved asphalt, with 7m runway shoulders either side of the runway, Take Off Run Available (TORA) for Runway 09/27 is 2893m. Central Apron: 112,000sqm. Central-West Apron: 32,000sqm. East Apron: 60,000sqm. West Apron: 160,000sqm. 2.2 LANDING aids for each RWY (e.g. Cat II): 60,000sqm. West apron: 160,000sqm. Central-West apron: 32,000sqm. East apron: 112,000sqm. 2.3 Future developments – are there plans to purchase or dispose of any equipment? In the process of purchasing 1 additional 6x6, currently out to tender. 2.4 Are you about to change any of your operational facilities and the surface areas? No.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS policies or main operational risks and hazards identified by internal/external SMS audits? SMS Manual updated bi–annually, risks or hazards identified by SMS audits within each 6 monthly period are assessed through safety assurance documentation process (ICAO Doc 9859 refers) and following subsequent reviews are amended as required.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of: a) Training: Airside safety briefing provided to all airside pass holders (inc. contractors) details FOD awareness and ownership/collection methodology, b) Inspection by airside, airport, and airside handling agency personnel: Stand inspection for FOD prior to aircraft arrival and departure. Mobile area inspections undertaken by operational staff throughout daylight hours. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Daily sweeping regime utilising dedicated sweepers. Mag bars on certain vehicles. d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Safety promotion/ FOD awareness campaigns run through Airside Safety Committee and highlighted as a regular theme item in EMA Airside Newsletter. 4.2 General: Are there any special systems or software tools you employ for FOD control? (Please specify product name and add any comments): No. 5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visually. 5.2 Are any design or engineering changes being undertaken or required to eliminate perceived hazards? No. 5.3 What safety devices are currently employed? (a) Single Runway Area FOD Safety System - AMASS; (b) DEAS-E, the Model X Airport Surface Detection Equipment; (c) Nav-tech/Cobham Surface Movement Radar; (d) Cochrane Radar (plus 6 month trial of enhanced stop-bar lighting (reduced light fitting spacing to 1.5m) at Runway Taxi-Holding Position Whiskey. 5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Runway designators and enhanced taxiway markings denoting proximity of runway holding position implemented as per CAP 168 Chapter 7. 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Specific Operators Permit scheme targeted at all personnel with a requirement to work within the Manoeuvring Area. Aerodrome Manual concisely details boundaries between Movement and Apron areas. Co-operation with the local pilot community through Pilots Liaison Group and targeted ATC/Airside Operators safety campaigns. 5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Yes. 6. Do you carry out a bird strike risk assessment? Yes. 6. Do you carry out an FRP for all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes, all details recorded on electronic database. 6.7 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Rabbits, addressed through targeted control regime.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture: 2 x Cobras 6x6, Detroit engines, 12000cc, year purchased 2000. 1 x Protector, Detroit engine, 12000cc, year purchased 1993. 1 x Snozle, Caterpillar engine, 18000cc, year purchased 1993. 1 x T100 XL, 2.4 Litre Toyota engine, year purchased 1999. 7.2 Future developments – are there plans to purchase or dispose of any equipment? In the process of purchasing 1 additional 6x6, currently out to tender. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1st November to 31st March. 8.2 Average annual days of snow: 10. 8.3 Average snow depth: < 25mm. 8.4 Maximum snow depth recorded: 12cm. 8.5 Annual number of days of de-icing activities: 22.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 11.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units) 1 x Schorling P21 with Magirus Duett prime mover + 16 foot plough. 1 x Schorling P17b with Magirus Duett prime mover + 16 foot plough. 1 x Schorling P17a with Magirus Duett prime mover + 16 foot plough. 1 x Danline 2000 with Magirus Duett prime mover + 16 foot plough. 2 x Chaffer de-icer with JCB fast track. 7 x Sicasir 540 with combination of JCB, and John Deere movers + 16 foot plough. 1 x Leyland truck with bunce gritter mounted on top. 1 x Ford tractor with small Danline brush. 1 x Iglo de-icer unit tow along.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow disposal depending on main operational facilities (runway, taxiways, aprons etc) stating identity of each facility: a. Clearance priorities will always commence with the runway and then proceed on to the taxiways and aprons. b. Runway 09/27 (with access to runway for fire appliances). Initially runways will be cleared to 36m width and then to the full 46m as soon as possible with snow below 25cm (10 inches). Particular attention is given to the runway ends to prevent the build-up of snow banks. c. Following on from the runway clearance, priorities will move to taxiways and bellmouths. These priorities will depend on the time of day. During daytime operations access to the central (passenger) apron will be the priority route. Night-time operations would prioritise
access to the east and west (height) aprons. d. Aprons - taxiway and stand centre lines cleared first. When clearing snow it may be best to close the stand and push all the snow into this area, it can then be removed. e. Remainder of parallel taxiway system, initially to allow access via Mike taxiway. f. Rest of taxiway system (including access to maintenance area). 1.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Four vehicles fitted with 16' ploughs and towing the snow blower move in echelon from the upwind edge of the runway working downwind across the runway, working 09/27 until clearance operations are complete. Whilst runway clearance is in progress the tractor/ Danline brush and the 2 tractors fitted with 10' ploughs (towing Sicards if available) are employed on the Central, Eastern and November aprons. Other vehicles move to taxiway clearance after completing their task on the runway. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? As quickly as possible.

12. EXPERIENCE WITH CHEMICALS 12.1 Have you employed any special means for de-icing operations? if so, please state vehicle or other benefits/disbenefits of ice warning systems: n/a.
12.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: 1 x JCZ7 with Bird exclusion/ plough combination: 1 x tow along gritter. 12.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No. 12.4 Do you have any winter services equipment which you would like to sell? No.

13. ICE WARNING SYSTEMS 13.1 State model and number of ice warning systems: None. 13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Not at present. 13.3 Comment on your experience with solid de-icers, for example mixing ratios with liq uids, “blow-away factor” etc. Not used.
13.4 Have you experienced any corrosion problems with de-icers? No. 13.5 Have you employed any special means to economise on chemical use? No. 13.6 Do you have any other comments on experience with chemicals? No. 13.7 Do you use other chemicals/blowers to move sand on operational areas? No.

14. AIRCRAFT DE-ICING 14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: Aircraft anti/de-icing operations undertaken by Ground Handling Organisations contracted to individual airlines.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-ice on stand. 14.3 Is glycol recovered? If so, please state methods: Glycol surface run off intercepted to winter retention pond, biological oxygen demand is monitored and flow regulated at the permitted discharge consent rate.

15. FRICTION TESTING 15.1 What model(s) of friction tester do you use? Findlay Irvine Mk2 Grip Tester D Type.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS 16.1 Are you about to change any of your airport’s methods? Methodology under constant review. 16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: 1 x JCZ7 with Bird exclusion/ plough combination. 1 x tow along gritter.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No. 16.4 Do you have any winter services equipment which you would like to sell? No.

EXETER

PART 1: GENERAL AIRSIDE SAFETY 1. AIRPORT NAME: Exeter International Airport 2. MOVEMENT AND MANOEUVURING AREA DATA 2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Runway 08/26 2083 x 46m; RWY 08, TORA 2047m, ASDA 2263m, ASDA 2047m, LDA 2037m; RWY 26, TORA 2073m, ASDA 2653m, ASDA 2073m, LDA 2037m. 2.2 Landing aids for each RWY (e.g. CAT II): Cat I. 3. SAFETY MANAGEMENT SYSTEMS 3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No. 3.2 Have you detailed your SMS procedures for de-icing operations? No.

5. RUNWAY INCURSION PREVENTION 5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? VCR.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMSAS; or ASDE-X, the Model X Airport Surface Detection Equipment): N/A.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: All runway hold points have enhanced markings installed as per CAP1268.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airfield training and campaign awareness to all airside users. Driver permit scheme in place.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, via a Local Runway Safety Team and promotion of a “no blame” safety culture.

6. BIRD AND WILDLIFE CONTROL 6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously during daylight hours.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues addressed? Combined wildlife management programme.

7. CRASH FIRE RESCUE 7.1 Please detail your CFT vehicle inventory stating: vehicle type; chassis; e.g. MAN; axles (4X4, 6X6); capacities (kgtake-away and type); year of manufacture: 3 x Cobra major fire appliances.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airport operators for training purposes? N/A.

PART 2: WINTER SERVICES QUESTIONARE 8. RECENT WINTER CONDITIONS 8.1 What is the designated period of winter readiness? Nov – Mar.
8.2 Average annual days of snow: 2.
8.3 Average snow depth: 5mm.
8.4 Maximum snow in 24 hours:
8.5 Annual number of days of de-icing activities: 7

9. WINTER ORGANISATION
9.1 Who is in charge of major purchases or sub-contracted winter services personnel are available per shift? 4.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment status reporting, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 4 x Ploughs, 1 x Snowbird de-icer, 1 x runway de-icer, 1 x apron de-icer.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 08/26, Taxiway Bravo, main Apron, Taxiway Charlie, Taxiway Echo, Taxiway Alpha, Taxiway Golf.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 2 – 4 hours.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Konsin.
12.2 Comment on storage capabilities of the chemicals which you use: 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: 12.4 Have you experienced any corrosion or damage to runway, taxiway and apron clearance: 12.5 Have you employed any special means to economise on chemical use: 12.6 Do you have any other comments on experience with chemicals? 12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: N/A.
13.2 Have you plans to purchase further ice warning systems and if so which models? (No).
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: N/A.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Provided by Flybe Engineering.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking areas? Parking areas.
14.3 How are these issues being addressed? No.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? N/A.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.

FOAR

PORT 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Faro Airport

2. MOVEMENT AND MANOEUVURING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other: RWY LENGTH 2490M, RWY WIDTH 45M, TORA 2490M, TWY A/B/C1/C2/EXP 23M, Main Apron 174,870sqm, General Aviation Apron 10,500sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 28 – CAT II – (Delayed to early 2011).

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System (SMS)”. Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No.
3.2 New reporting system in implementation fase.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe the preventi bracing programme to control FOD in terms of: a) Training: No stand-alone training programme. FOD training is included in the “Airport Rules and Regulations Training”. b) Inspection by airline, airport, and air plane handling agency personnel: Perma nent inspection by airport operation.
4.2 Maintenance (use of sweeping, magnetic bars, rumbie strips, FOD containers etc): Airport uses sweepers, FOD bins at all parking positions.
4.3 Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordina tion and reporting done by airport operations.
4.4 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements, on manoeuvring area are controlled and coordinated by local ATS (TWR), ATS (TWR) and Airport Deparations have a local protocol to regulate the remaining airside of airport.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No, apron breakdown points/area to clear aircraft taxi in/ou to parking positions.
5.3 What safety devices are currently employed? (a) SMGCS, airport movement system for the aerodrome: “the aerodrome operator shall establish a Safety Management System (SMS)”. Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No.
5.4 Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

6. BIRD AND WILDLIFE CONTROL
6.1 Do your staff attend recognised bird control training courses? Environment department seminars integrated in Safety Campaigns.
6.2 Are your bird control staff working on the airport continuously, hourly, less than hourly? Yes. Dedicated bird control staff from (Sunrise to Sunset).
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer): Bird control is using: Gas cannon, Falconry, Recorded distress calls, Pyrotechnics.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log their bird control activities? (To manage success in dealing with the problem, and to use in defence in case of law suits): Yes. Bird Strike database and census for species, bird movements and bird flocks lead by Faro Airport Environment Department.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; class (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: OSH-KOSH STRIKER 00-001, Water 12000l, Foam 1500l, Dry Chemical Powders 25kg, Water Pump 74000, Top Turret 1 6200, Time 0-80km 28, Engine 720bhp; OSH-KOSH STRIKER 00-007, Water 12000l, Foam 1500l, Dry Chemical Powders 25kg, Water Pump 74000, Top Turret 1 6200, Time 0-80km 28, Engine 720bhp; OSH-KOSH T1500 00-002, Water 6000, Foam 1500l, Dry Chemical Powders 320kg, Halon 68, Water Pump 4730, Top Turret 1 4230, Time 0-80km 25, Engine 540bhp; TITAN E-ONE 00-003, Water 12000l, Foam 1500l, Dry Chemical Powders 230kg, Water Pump 6810, Top Turret 1 2840, Front Turret 2 1230, Time 0-80km 37, Engine 7540bhp
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes.1 Command vehicle – fire officers, Cessna 208, 2 crew, 1x fire fighting vehicle. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.
7.4 Future developments – are there plans to purchase or dispose of any equipment? Yes.1 Command vehicle – fire officers, Cessna 208, 2 crew, 1x fire fighting vehicle.
is responsible for the daily operational safety of the movement area and coordinates the cleaning of surfaces and areas. The Facilities Management Dept. and initiates immediate remedial action when necessary. Additionally FOD is a constant theme at the AOC level communicated by Airside Operations to participating airlines and ground handling companies.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No. FRA is interested in installing an FOD detection system.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground?

Primary methods consist of traffic control conducted continuously by Apron Supervision (Follow-me) in the movement area and Airport Security conducting surveillance for VFR and a/c movement. ACFT ground traffic is controlled visually and by radio guidance. Additionally ACFT ground traffic is controlled utilizing system described in 5.3.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards?

Changes in the traffic scheme such as markings, signs and lighting are made when real or perceived hazards exist or to improve vehicle and aircraft traffic flow.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDX-X; the Model X Airport Surface Detection Equipment): FRA Apron Control and ATC Tower utilises a combined SMR and multilateration radar system for VFR and a/c movements in the manoeuvring area. FRA requires all vehicles that are designated to drive in the manoeuvring area to be equipped with Mode-S Transponders.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: FRA constantly upgrades its systems and the SMS at Frankfurt Airport is enhanced continuously. The results of audits are considered beneficial for the continuous development of an SMS. However no major changes were necessary in the risks/hazards identification process.

6. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

6.1 Describe your airport’s programme to control FOD in terms of:

a) Training: Removal and prevention of FOD is a theme that is communi-cated to all persons trained or in training for work in the movement area as well as all other participants.

b) Inspection by airline, airport, and airline handling agent personnel: All operators in the movement area are responsible, per Airport User Regulations, for the prevention and removal of FOD. Ground servicing companies and airline personnel are directly responsible for the prevention and removal of FOD on the aircraft positions they service. FRA Apron Supervision inspects apron areas continuously 24 hours a day and orders clean up details as needed. FRA Apron Control conducts regular inspections of the manoeuvring area conducted on a 24 hour basis at least every 4 hours and when necessary. Additionally inspections and observation are conducted by the Airport Duty Manager.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): The movement area is cleaned at 24 hour intervals and when required by surface sweeper vehicles with magnet bars. Hot Spots (e.g. equipment parking areas) in the movement area are cleaned manually. Additionally a FOD*BOSS duplex system is utilised by our Apron Supervision on the apron areas.

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Airside Operations

is responsible for the daily operational safety of the movement area and coordinates the cleaning of surfaces and areas. The Facilities Management Dept. and initiates immediate remedial action when necessary. Additionally FOD is a constant theme at the AOC level communicated by Airside Operations to participating airlines and ground handling companies.

6.2 Landing aids for each RWY (e.g. total apron surface area: 2,128,000sqm; 3970m; total RWY surface area: 720,000sqm; 4000m x 60m tora 4000m; 07r/25l 4000m)

6.3 Have your airport made any recent changes to its SMS? (Please state relevant supplier/manufacturer): FRA utilises pyro acoustical equipment and controlled hunting.

6.4 Do you carry out a bird strike risk assessment? At the national level a Bird Strike Risk Forecast System has been established and provides our Bird Control Officer with useful information. Furthermore risk assessment for our aerodrome is carried out by our Bird Control Officer according to experience gathered.

6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): All aspects of bird control are documented in detail.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? FRA has modified the perimeter fencing to minimise wildlife entering the movement area and is inspected regularly. This has eliminated past difficulties with wildlife.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture: 5x Simba 6x6, 5x Simba 8x8 plus a multitude of CFR vehicles and equipment for fire fighting, salvage, power generation, mobile emergency operations coordination, HAZMAT Control etc.

7.2 Future developments – are there plans to purchase or dispose of any equipment? Additional crash trucks for our new fire station that will service the new runway.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Our Fire Brigade has a Fire Training Simulator and does offer training to other airports.

8. WINTER SERVICES QUESTIONNAIRE

8.1 What is the designated period of winter readiness? November 15 to March 31.

8.2 Average annual days of snow: 83

8.3 Average snow depth: 84

8.4 Maximum snow in 24 hours: 15cm.

8.5 Annual number of days of de-icing activities: 134

8.6 Days Surface clearing and/or surface de-icing:

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 105 or more depending on to actual weather conditions.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose,

11. EXPERIENCE WITH CHEMICALS
11.1 State the vehicles, formations and general method of runway, taxiway and apron clearance. 1) Runway clearing consisting of 1.4 snow-sweeper-plough vehicles, 2 snow blowers, 2 de-icers and 2 guidance vehicles lined up diagonally to clear the runway in one run. 2) Smaller conveyors and flexible vehicle combinations for clearing and de-icing taxiways and apron areas.
11.2 After moderate snow, how quickly do you expect to have the runway cleared? We have set an average clearing times for closing and clearing the runways and generally get the job finished in the allotted time frame unless we experience severe weather conditions (e.g. continuous heavy snowfall).
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: AVIFORM L50 and AVIFORM S-Solid, Clearway F1 and Clearway SF3, Safeway KF-Hot, Safeway KF and Safeway SF.
12.2 Comment on storage capabilities of the chemicals which you use: Our operational capacity is 700,000 litres with 1.9 million litres in reserve, stored at the aerodrome. The chemicals are stored in tanks that meet German environmental and safety regulations.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: We only use solid de-icing chemicals in extreme weather conditions because of the so called “blow-away factor” and environmental restrictions. If we use solids then it is pre-wetted before application. Our goal is always to spreading sand, solid and fluid deicing materials/co. Schmidt, Ivco and Kuepper-Weisser: Diverse trucks, tractors, fueling vehicles and ploos/co. Schmidt, Kuepper-Weisser and Ivco.

16. RUNWAY INCURSION PREVENTION
16.1 Is the primary function of your airport’s FOD prevention program to prevent FOD entering the movement area or is it primarily focused on keeping the runway, taxiways, and aprons clear? Our FOD prevention program is focused on keeping the movement area clear of FOD.
16.2 Have you experienced any FOD related issues in the past year? We have not experienced any FOD related issues in the past year.
16.3 Do you have any comments on the reliability of FOD detection equipment? Our FOD detection equipment is reliable and helps reduce the risk of FOD on the movement area.

SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS installed since November 24, 2005; SMS is an integral part of the company operations manual. Prohibited by government in 2007.

FOOD AND DRINK DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
- a) Training: Staff concerned with removal of FOD objects as well as inspecting the movement areas are trained yearly, also trainings offered by insurers companies. E-based training programme.
- b) Inspection by airline, airport, and airline handling agency personnel: Inspections are done by different airlines operating at Friedrichshafen, for example Deutsche Lufthansa, Air Berlin.
- c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD Container
- d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Coordination meetings take place monthly

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6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your CFR (Certified Flight Refueling) vehicle inventory stating:

- Vehicle type
- Chassis (e.g., MAN, Mercedes-Benz)
- Axles (4x4, 6x6)
- Year of manufacture
- Capacities (kg/litre and type)

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Only if birds detected by Tower.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer, Pyrotechnics and shotgun (used as backup).

6.4 Do you conduct any bird strike risk assessment? Once a year, not audited.

6.5 Do you conduct a bird strike risk control activities? To manage success in dealing with the problem, and to use in defence in case of law suits; All carcasses found are logged, Pyrotechnics usage is not logged. For the time bird/wildlife control works with expected success.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, only rabbit, fox, mouse. Rabbit and fox are hunted, mice reduced by using foxes.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating:

- Vehicle type
- Chassis (e.g., MAN; axes (4x4, 6x6);

7.2 Future developments – are there plans to interact with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Reporting proceedings are in place by the end of 2011.

7.3 Are you expected to achieve ‘black top’ on the runway? Yes, with the overall length and at the end of 30min including RWys, main TWys and 2 positions on main apron, then rest of movement area.

7.4 State the vehicles, formations and general method of runway, taxiway and apron clearance: First mechanical clearing of surface with snow ploughs in combination with Air blast sweepers in formation of 7 vehicles, then if required, application of chemical fluids (“Safetyway” from Clarient).

7.5 Statements about the suitability of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: First the RWys, then main TWys, 2 positions on main apron, then rest of movement area.

7.6 State the vehicles, formations and general method of runway, taxiway and apron clearance: First mechanical clearing of surface with snow ploughs in combination with Air blast sweepers in formation of 7 vehicles, then if required, application of chemical fluids (“Safetyway” from Clarient).

8. EXPERIENCE WITH CHEMICALS

8.1 State which pavements de-icers you use, along with the quantities used last season.

8.2 Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: 92,000 kg “Safeway HOTT” from Clarient (delivery receipt doesn’t show litres). No special comments, satisfied.

8.3 Comment on storage capabilities of the chemicals which you use: 30,000lt for aircraft de-icing fluid; 20,000lt for movement area.

8.4 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Solid de-icers in use.

8.5 Have you experienced any corrosion problems with de-icers? No.

8.6 Have you employed any other special means to economise on chemical use? No.

8.7 Do you have any other comments on experience with chemicals? No.

8.8 Do you use other chemicals or sand on operational areas? No.

9. ICE WARNING SYSTEMS

9.1 State model and number of ice warning systems installed.

9.2 During heavy use daily calibration by airport staff.

9.3 Have you employed any special means to determine friction indexes? According to aircraft crews it seems to be okay. Calibration of friction testing equipment is done prior winter season, during heavy use daily calibration by airport staff.

10. AIRCRAFT DE-ICING

10.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 2 x Mercedes-Benz 60/88-12 mercedes-benz.

10.2 Is glycol recovered? If so, please state methods: No.

11. FRICTION TESTING

11.1 What model(s) of friction tester do you use? 2 x Saab.

11.2 Have you any comments on the reliability of friction indexes? According to A/C-crews it seems to be okay. Calibration of friction testing equipment is done prior winter season, during heavy use daily calibration by airport staff.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavements de-icers you use, along with the quantities used last season.

12.2 Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: 92,000 kg “Safeway HOTT” from Clarient (delivery receipt doesn’t show litres). No special comments, satisfied.

12.3 Comment on storage capabilities of the chemicals which you use: 30,000lt for aircraft de-icing fluid; 20,000lt for movement area.

12.4 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Solid de-icers in use.

12.5 Have you experienced any corrosion problems with de-icers? No.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems installed.

13.2 During heavy use daily calibration by airport staff.

13.3 Have you employed any special means to determine friction indexes? According to aircraft crews it seems to be okay. Calibration of friction testing equipment is done prior winter season, during heavy use daily calibration by airport staff.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 2 x Mercedes-Benz 60/88-12 mercedes-benz.

14.2 Are you required to have dedicated de-icing positions or do you de-
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:
- a) Training:
- b) Inspection by airline, airport, and aircraft handling agency personnel: Runway inspections are carried out six times a day. All aircraft positions are swept once a day. The Apron is swept three times a week. The Links and Taxiways are swept once a week. The Runway is swept once a month, or on request. All positions are checked for FOD before arrival and on departure of the aircraft.
- c) Maintenance (use of sweeping, mag: netes, equipment, etc.): Swimmers and FOD containers are used.
- d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): The FOD inspection is carried out in coordination with multiple airport users.

A widespread FOD awareness and prevention campaign was carried out in November 2010. Regular campaigns are planned for the future.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (please specify product name and add any comments): No special systems or software are used.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The primary method of monitoring vehicle and aircraft movements on the ground is visual observation.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Runway incursion protection equipment currently installed: Alternating yellow lights installed at CAT I holding point. Wig-wag lights are installed at all CAT I holding points. Lighted red stop bars are installed at all CAT I/III holding points (used only in LVC).

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface De- tection Equipment): A-SMGCS (level 1 and 2) based on Park-Air with Sensis multilateration system and Tema SMR is used as an additional monitoring tool.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Painting has been reinforced (“Runway ahead”). On the two north taxiway (Y & Z), wig-wags have been installed. Due to speed between the runway and the apron, stop bars on taxiways C, D, E are always illuminated. A-SMGCS level 2 is implemented.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Two specific programs for drivers are in place (apron and maneuvering area).

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalitv’ reporting? All incidents on the maneuvering area are reported according to the directives of the Swiss regulatory authority (Federal Office of Civil Aviation) based on ESARR. Incidents reports and subsequent analysis are shared between the ANSP and the Airport Authority.

6. BIRD AND WILDLIFE MANAGEMEN

6.1 Do you use wildlife management techniques that you consider effective? Yes.

6.2 Is your airport in a biodiversity hotspot? No.

6.3 What specialist equipment do you employ for bird control? (please state relevant supplier/manufacturer): Yes.

6.4 Do you carry out a bird strike risk assessment? (please state relevant supplier/manufacturer): Yes.

6.5 What bird species are present at your airport? Yes.

6.6 does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Exceptionally an animal succeeds in entering the airport premises creating a hazard for the aeronautical traffic. For this type of intervention, special procedures are in place with the local authorities to assure the capture and the elimination (if necessary) of the animal (department for the protection of nature and landscapes).

7. CRASH FIRE RESCUE

7.1 Please detail your vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture: Subaru For. Command vehicle 2003 4x4; Subaru For. Headquarters vehicle 2004 4x4; Suzuki Duty officer’s vehicle 2006 4x4; Mercedes PCI “Transmission” vehicle 1992; Mercedes Fire duty officer’s vehicle 1997 4x4; Toyota Escort vehicle 2006; Opel Transport and escort vehicle 2004 (15 places); Smart Escort vehicle 2004; Opel Transport and escort vehicle 2007; Suzuki Head- quarter vehicle 2006 4x4; Smart Infirmary 2003; Toyota Escort Vehicle 2005; Rosenbauer MAN Extinguishing vehicle 12,500 l water / 1,500 l extract; 2005 8x8; Rosenbauer MAN Extinguishing vehicle: 12,500 l water / 1,500 l extract 2000 8x8; Rosenbauer MAN Extinguishing vehicle: Type Snozzle 11,000 l water 2008 8x8; 1, 500 l extract Iveco Bridge 2006; Vagt Mercedes Extinguishing vehicle: 4,000 l water 2004 4x4; 500 l extract 250 kg of power Mercedes Loading vehicle for Berces 2004 8x8; Rosenbauer MAN Extinguishing vehicle: 12,500 l water 2003 8x8; 1,500 l extract Ford Ambulance 2006; Ford Ambulance 2006; Ford Ambulance 2003 4x4; Hänni Berce Sanitary 2000; Vagt Berce moss 2004; Mercedes “Poinner” vehicle 1996 4x4; Dodge Ram Replacement vehicle Saturne 2001 4x4; Mercedes Loading vehicle for Berces 2000 8x8; Mercedes Materiel vehicle 1984; Deschamps Berce ground carpet 200-2 Hänni Aircraft Recovery Berce of levage 2002; Boston Boat of rescue 2 engines of 130 HP 1994; Whaler 2 nacelles de 65 places each 1999; 1 nacelles fixed on the helicopter1999; 3 nacelles of 65 places each reserve SSA 1999; Reserve water Tow: 25,000 l 1969; Transport Tow (total weight 16 tons) 1982; Tow usage divers (HID-R) 1980; Emergency materiel Tow (1 axe) 1972; Com- pressor Atlas Copco XAS 55 1985; Teklise Projector with auxiliary engine 2002; Projector with auxiliary engine 2002; Luxomobile Projector with auxiliary engine 1985; Bosch Honda diesel GD 410 4,7 KW 1998; Hatz Hatz diesel 1041742 5,2 KW 1997; Gottwald Crane 20 T. Chemical container 2006. 7.2 future development: 24 places on these plans to purchase or dispose of any equipment? No 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Geneva International Airport currently does not use a fire training simulator, but its installation is foreseen.

8. WINTER SERVICES QUESTIONNAIRE

8.1 What is the designated period of winter readiness? November 1st to April 15.

8.2 Average annual days of snow: 13 days (between December and January).

8.3 Average snow depth: 46 cm (be- tween December and January).

8.4 Maximum snow in 24 hours: 10cm.
8.3 Annual number of days of de-icing activities: 103 days.

9. WINTER EQUIPMENT INVENTORY
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Command personnel x 3, Command vehicles x 3, Snow removal Runway + Taxys x 12, Snow removal Apron x 16, Snow removal line x 4, Friction measurement 7, Maintenance (2 stands x 5), Road service 3, Treatment roads 4.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units); Equipment for snow removal on runway: Truck 4x4 Mercedes Unimog 1; Truck 4x4 Mercedes 3600 1; Snow blade Boschung 7000 1; Sweeper and abrash blade for runway lights Newholland 1; Airplane: Sauer 2.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Priority 1 Runway, Priority 2 Taxiways, Priority 3 Apron South and Apron North “General aviation”, Priority 4 Parking area and hangars.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Runway: Vehicles are aligned diagonally, Snow is pushed to both edges of the runway by trucks equipped with snow-blades and sweeper-blowers. The operation of snow sweeping including friction measurement takes 15 minutes. The duty officer coordinates the operation with the ANSR Taxiways: Vehicles are aligned diagonally. Trucks equipped with snow blade and sweeper-blower push the snow to the edge of the taxiway. Apron: Vehicles are aligned diagonally. Trucks equipped with snow blade and sweeper-blower push the snow from the edges to the center of the Apron, loaders load the snow on trucks which evacuate it to the designated location.

11.3 After the clearance is completed, how quickly do you expect to achieve ‘black top’ on the runway? After moderate snow, the “black top” of the RWY is usually achieved in 15 minutes.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc; De-icers types and quantities use during winter season 2009-2010; For RWY and Taxiway safety KA, 194/600 l. Safety Kaw, SF, 45,000 Kg, For Aircraft: Glycol type 1, 490,541 l. Glycol type 2, 299,878 l. Glycol type 4, 568,379 l.

12.2 Comment on storage capabilities of the chemicals which you use: 37,000 liters of Safety Kaw in tank, 33,500 kg of Safe- way SF in bags of 500 and 1000 kg.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, blow-away factor etc: AIG has reliable experience with solid de-icers or mixing ratios with liquids.

12.4 Have you experienced any corrosion problems with de-icers? AIG has experienced some corrosion problems on de-icers.

12.5 Have you employed any special means to economise on de-icer? If so, please provide details. Any special means in order to economise on chemical use.

12.6 Do you have any other comments on experience with chemicals? “Safety Kaw and SF” have been used since 1999.

12.7 Do you use other chemicals or sand on operational areas? No, we only use de-icer sand.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: There is no ice warning systems in Geneva.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/ de-icing services? If so, please provide details. No.

14.2 Are you required to have dedicated de- icing positions or do you de-ice on the parking area? We de-ice only on the parking area.

14.3 Is glycol recovered? If so, please state methods: Glycol is recovered by a truck which absorbs it on the apron. After use, glycol is put into a circuit where it is treated (no recycling).

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? 2 x friction tester vehicles “SAAB”.

15.2 Have you any comments on the reliability of friction indexes? No comment is made on the reliability of QRVs friction index.

16. FUTURE DEVELOPMENTS
16.1 Are you able to change any of your airport’s methods? Currently no major changes are planned in the airport’s winter operations and procedures.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details.

16.4 Do you have any winter services equipment which you would like to sell? No winter equipment is currently on order or for sale.

GLASGOW AIRPORT

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Glasgow Airport

2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other: Runway 05: TORA 2658m, TODA 2718sm, ASDA 2658m, LDA 2661m. Runway 23: TORA 2656m, TODA 2699m, LDA 2356m. Runway Strips: Each runway is included within the defined strip areas, in accordance with CAP 168, Chapter 4. Strip widths: Designator Runway 05/23 150m either side of centreline. Runway End Safety Areas (RESA): The runway end safety areas are defined for both runways, and their dimensions are in accordance with CAP 168, Chapter 3. All taxiways are designed to CAP 168 requirements and are safeguarded for code E operations, with the exceptions of: Northern taxiway Z which is limited to Boeing 737/7311 size due to the DVOR and the Fire Training ground; Stopways There is a stopway of 150m associated with Runway 23. Clearways: The clearway surfaces are prepared in accordance with CAP 168, Chapter 1. The dimensions of taxiways and other relevant winter equipment stating purpose, manufacturer and number of units: Truck 4x4 Mercedes Unimog 1; Truck 4x4 Mercedes 3600 1; Snow blade Boschung 7000 1; Sweeper and abrash blade for runway lights Newholland 1; Airplane: Sauer 2.

11.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units); Equipment for snow removal on runway: Truck 4x4 Mercedes Unimog 1; Truck 4x4 Mercedes 3600 1; Snow blade Boschung 7000 1; Sweeper and abrash blade for runway lights Newholland 1; Airplane: Sauer 2.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Runway: Vehicles are aligned diagonally, Snow is pushed to both edges of the runway by trucks equipped with snow-blades and sweeper-blowers. The operation of snow sweeping including friction measurement takes 15 minutes. The duty officer coordinates the operation with the ANSR Taxiways: Vehicles are aligned diagonally. Trucks equipped with snow blade and sweeper-blower push the snow to the edge of the taxiway. Apron: Vehicles are aligned diagonally. Trucks equipped with snow blade and sweeper-blower push the snow from the edges to the center of the Apron, loaders load the snow on trucks which evacuate it to the designated location.

11.3 After the clearance is completed, how quickly do you expect to achieve ‘black top’ on the runway? After moderate snow, the “black top” of the RWY is usually achieved in 15 minutes.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc; De-icers types and quantities use during winter season 2009-2010; For RWY and Taxiway safety KA, 194/600 l. Safety Kaw, SF, 45,000 Kg, For Aircraft: Glycol type 1, 490,541 l. Glycol type 2, 299,878 l. Glycol type 4, 568,379 l.

12.2 Comment on storage capabilities of the chemicals which you use: 37,000 liters of Safety Kaw in tank, 33,500 kg of Safe- way SF in bags of 500 and 1000 kg.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, blow-away factor etc: AIG has reliable experience with solid de-icers or mixing ratios with liquids.

12.4 Have you experienced any corrosion problems with de-icers? AIG has experienced some corrosion problems on de-icers.

12.5 Have you employed any special means to economise on de-icer? If so, please provide details. Any special means in order to economise on chemical use.

12.6 Do you have any other comments on experience with chemicals? “Safety Kaw and SF” have been used since 1999.

12.7 Do you use other chemicals or sand on operational areas? No, we only use de-icer sand.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: There is no ice warning systems in Geneva.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/ de-icing services? If so, please provide details. No.

14.2 Are you required to have dedicated de- icing positions or do you de-ice on the parking area? We de-ice only on the parking area.

14.3 Is glycol recovered? If so, please state methods: Glycol is recovered by a truck which absorbs it on the apron. After use, glycol is put into a circuit where it is treated (no recycling).

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? 2 x friction tester vehicles “SAAB”.

15.2 Have you any comments on the reliability of friction indexes? No comment is made on the reliability of QRVs friction index.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? Currently no major changes are planned in the airport’s winter operations and procedures.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details.

16.4 Do you have any winter services equipment which you would like to sell? No winter equipment is currently on order or for sale.
is clear of the ILS LLZ sensitive area. Low intensity blue edge lighting is installed in the holding areas Links A, E, G and R. Airport Lighting and Visual Docking Guidance Systems (EGPF AD2.9): Apron lighting provision is in accordance with CAP 168. The horizontal average is 20 Lux on all apron areas. Nose-in parking is in operation for most aprons except the Cargo area, General Aviation area and Stands 6 and 7 which are marshalled. All nose-in stands have visual docking guidance systems and, in at least one of the following forms – VGDS, AGNIS, APA, Mirror or Ground Stop Arrow.

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The SMS shown in 3.1 has evolved over the years as a result of reappraisals and audits (internal & external).

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: Part of ground handling training, part of ADR.
   b) Inspection by airside, airport, and airline handling agency personnel: Inspection process is continuous, FOD removal sweeping programme
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD removal sweeping programme
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): See (a) to (c)

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Surface Movement Radar.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) RMCAS.
5.4 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Maneoeuvring Area Training.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as no-penalty reporting? Yes, with NATS.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.
6.2 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer: Recorded distress calls, pyrotechnics, shotguns, air rifle.
6.4 Do you carry out a bird strike risk assessment? Yearly audit, reviewed half yearly by FERA.
6.5 Do your staff log all their bird control activities?

6.6 BIRD AND WILDLIFE DATA
6.7 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/ltre and type); year of manufacture: Cobiak Mki1 (1) 11,500 1750 4,500 100 2 50 2; Cobia Mki2 (4) 11,500 1380 4,500 100 2 50 2 Javelin (SDR)/100,1118 4,500 100 2 50 2; Viper (2) 6 4000 2 50 2; Mitsubishi Shogun; LR Discovery (2) (2).
6.7.2 Future developments – are there plans to purchase or dispose of any equipment?

6.8 What specialist equipment do you employ continuously, hourly, less than hourly? continuously.

6.9.1 What is the designated period of winter readiness? November 1 to March 31.
6.9.2 Average annual days of snow: 8.
6.9.3 Average snow depth: 5cms.
6.9.4 Maximum snow in 24 hours: 1m.
6.9.5 Annual number of days of de-icing activities: 80.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant equipment, stating purpose, manufacturer and number of units (for example: compact jet sweeper, Schmidt, CIS 720, 4 units); SB 90 Sweeper 6 units; Snow blower 2 units; De-icer 2 units; Tractor ploughs 2 units; Tractor brush 2 units.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway, taxiway, apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Staggered formation.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 4 hours.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Hon-sin (379,125 lbs), & Clearway 6 (8700 kg).
12.2 Comment on storage capabilities of the chemicals: 16m3.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Good.
12.4 Have you experienced any corrosion problems with de-icers? None.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SIGNALS
13.1 State model and number of ice warning systems: Icelert MIB.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.
13.3 Comment on your experience of the benefits/disbenefits of ice warning systems: Useful if used in conjunction with forecasts.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No.
14.2 Are you requiring any changes to de-icing positions or do you de-ice on the parking area? No.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? Grip tester.
15.3 Have you any comments on the reliability of friction testers? Accurate.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example): No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Are you currently purchasing or ordering products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? SMR Surface Movement Radar.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes.
5.3 What specific procedures are there for training and familiarisation of runway safety personnel? c) Training, b) inspection by airline, airport, and airplane handling agency personnel. 
10.1 Please list specialist snow clearing, de-icing and winter services personnel are available per shift? 10.
16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? Not for the moment.

Graz Flughafen Graz Betriebs GmbH

1. AIRPORT NAME: Flughafen Graz Betriebs GmbH
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway: Dimensions 3000 x 45 m (left and right 7.5 m shoulders). (17C / 35C) with shoulders 3000 x 60 m, TORA 17C: 3000m, TODA 17C: 3060m, TODA 35C: 3000m, TODA 35C: 3000m, Grasrunway: 17L/35R and 17R/35L. 

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No. We have three external Audit from the BMVIT (Austria) about the SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training b) Inspection by airline, airport, and airplane handling agency personnel c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc) d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). The control of FOD is done by the Deputy Operations Officer. He arranges the cleaning the runway and taxiways with airlstatt sweepers. The apron is cleaned by means of a cleansing mat. 

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground?
7.3 If your airport possesses a fire training simulator, five 1000 lt. pumps (4x4) 1990, 360 kg, Z8
7.4 If your airport possesses a fire training simulator, 12,500 lt. 2000 lt. 500 kg, pumps (4x4) 1998, 460 kg, Z8

10. WINTER ORGANISATION
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: Aircraft de-icer: Schreuth, C/S, 720; 4 units): 5 units airlift sweepers Bucher Schröd-ling P17, 2 units airlift sweepers Overaasen RS 400, 1 unit snow blower Steyr TK 93 + Kafl- bacher, 1 unit snow blower Bucher Guyer, 1 unit snow blower Grizzly Dr 52 + Kaflbacher.

11. PROCEDURES AND METHODS
11.1 Please list the order of priority of snow clear- ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. runway (L7/35) 2. taxiway A,B,D 3. Apron 4. taxiway X,Y.
11.2 State the vehicles, formations and general meth- od of runway, taxiway and apron clearance: 5 airlift sweepers for runs necessary for runway sweepers. 11.3 After moderate snow, how quickly do you expect to achieve a clear runway? 24 minutes

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Runway de-icer: 60,000 kg Hamstoff UREA, 7000 kg Safety-water, FA (Fa. Glienz). For example: Mixing ratios with liquids, “blow-away factor” etc. Urea is effective to -6 °C and below it be mix with liquids (Safety-water).
12.2 Have you experienced any corrosion problems with de-icers? UREA and the Safe- way KA is very aggressive to metal parts.
12.3 Have you employed any special means to economise on chemical use? Ice warning systems.
12.4 Do you have any other comments on experience with chemicals?
12.5 Do you use other chemicals or sand on operational areas? No
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warn- ing systems: Typ: Beschung SGL 2002 and GFS 2000 with 4 Measuring action ions.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No
13.3 Comment on your experiences of the ben- efits/disbenefits of ice warning systems. Ice warning system help to economy control use.

14. AIRCRAFT DE-ICING
14.1. Which de-icer currently provide aircraft anti/de- icing operations? If so, please state vehicle or other facility, and quantity of units. Yes.1 unit aircraft de-icing vehicle Stalder Meereson 1820, 1 unit aircraft de-icing vehicle, Stalder Meceres Atego 18, 1 unit aircraft de-icing vehicle Esibal Steyr 19524.
14.2. Are you required to have dedicated de- icing positions or do you de-ice on the park- ing area? De - ice on the parking area.
14.3 Is glycol recovered? If so, please state methods. No

15. FRICTION TESTING
15.1. What model(s) of friction tester do you use? 2 units Skidometer BV 11.
15.2 Have you any comments on the re- liability of friction indexes? No

16. FUTURE DEVELOPMENTS
16.1. Are you about to change any of your air- port’s methods? Yes, we would change the airlifter sweepers with large working with. So we need less time for the clearing of the runway.
16.2. Do you plan to purchase new equipment or vehicles? If so, please provide details. Yes, we change the airlifter sweepers (Buch Schröd- ling P17) with 3 meters working width to air- plait sweepers with 5.5 m working width.
16.3. Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No
16.4. Do you have any winter services equipment which you would like to sell? No

HAMBURG

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Hamburg Airport
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, parking area, other): RWY: 315,000 m2 (RWY 09/23 and RWY15/33), TWys: 320:600 m2. Aprons: 491.300 m2. RWY-Shoulders: 92.000 m2.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 05: ILS CAT I, PAPI, RWY 23: ILS CAT II/Illb, PAPI, RWY 15: ILS CAT I, PAPI, RWY 33: LLZ / DME, PAPI
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Mandatory basics for a Safety Management System according to ICAO, Annex 14 are established. Safety Manager nomi- nated. Aerodrome Manual is available. Safety relevant processes have been identified and documented. Additional Runway Guard Lights have been installed at critical intersections. Additional Runway designator markings on floor at critical intersections. The following sub-committees are working for the Airport Safety Committee: Apron committee – regular meetings every month; Adverse weather conditions committee – regu- lar meetings every 2 weeks during the winter period; Runway Safety Team - 4 times a year. Runway inspec- tions carried out in opposite direction. All staff involved is using the phraseology agreed on by ADV - airports for ground vehicles operating on runway systems.
4. FOREIGN OBJECT DAMAGE
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: Part of regular training for all people designated to work on ramps before they start to work.
   b) Inspection by airline, airport, and airplane handling agency personnel: Regular inspections are carried out as part of the mandatory ICAO airfield inspections at
least four times a day. Inspections are carried out by the airport. Aircraft stands are inspected before and after each operation by ground handling staff.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Routine maintenance on a daily basis and on special request using Sweepers and or Magnetic bars.

d) Coordination of multiple agencies using airport (airlines, handling agents etc): Coordination and informations via (Airport Operators Committee), Airport Users Committee, the Airport Safety Committee (ASC) and bilateral.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): N/A

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle on the ground? Guidance by means of RT (Apron Control, ATM) - Traffic Supervisors/Follow Me vehicles.

5.2 Are any design or engineering changes being undertaken required to eliminate perceived hazards? Installation of Runway Guard Lights, regular quality checks on signage and markings. Additional Runway Guard Lights have been installed at critical intersections.

5.3 What safety devices are currently employed? (A-SMGS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): New ASDE-X; A-SMGS Level I and II incl. Sensor Techniques (Multilateral: detection via radar). Additional Runway Guard Lights have been installed at critical intersections.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Anything in addition to a single solution, e.g. A-SMGS, is helpful but it should be kept in mind that cockpit crews must not be overburdened and should have a chance to realise and interpret signs, lights and markings during taxi. Hamburg Airport and the Deutsche Flugsicherung GmbH (DFS), ATM – provider for Germany, have signed a contract on establishing an A-SMGS at Hamburg. The system is installed and fully operable since May 2010.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Regular awareness training for all employees acting as Traffic supervisors – basic training for all people working on ramp areas.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-harm’ reporting? All airlines are based on the European Action Plan for the Prevention of Runway Incursion and carried out jointly with Deutsche Flugsicherung and pilots (Runway safety team Hamburg). Regular meetings (four times a year) take place. “Hot Spot” map published.

6. BIRD AND WILDLIFE CONTROL

6.1 Please describe your hazard management policy and how it reduces the attraction of the airfield to birds: Keep the grass high where possible; avoid clusters of bushes or hedges; destroy nests of crows and other so-called blackbirds, coverage of waste water reservoirs to water birds away, counting/statistical records every fortnight.

6.1. Do your staff attend recognised bird control training courses? Yes, every two years.

6.2 Are your bird control staff working on the airfield continuously, hourly/less than hourly? Continuously.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pyrotechnics, shotguns.

6.4 Do you carry out a bird strike risk assessment? At least twice a year (spring and autumn); counting/statistical records every fortnight.

6.5 Do you carry out any other airport measurements/activities? (To manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Wildlife such as rabbits, foxes and occasionally deer ... same procedure as with birds.

7. CRASH FIRE RESCUE

7.1 Please provide vehicle inventory stating: vehicle type: chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/ litre and type); year of manufacture: 4 Ziegler ZB, 8x8, Water: 12.4000, Foam: 2x4000, engine: MAN classic 12cyl. year of manufacture: 2006. 2 Mercedes H.L.F M2000 (Water: 40001, Foam: 4001 yr of manufacture: 2006. 1 Rescue Staircase TECHNIERT 7.18.17-01/ HBG, M.A.N FE 27.140 Year of manufacture: 2005.

7.2 Future developments – are there plans to purchase or dispose of any equipment? MAN HLF M2000 (Water: 4001, Foam: 4001) in 2011. 7.3 If your airport possesses a Fire Training Simulato- tor, is it available to other airports for training purposes? Flourish training of Fire Training Simulator is shifted from Frankfurt airport to Hamburg Airport once a year for 8 days.

8. CRASH FIRE RESCUE

8.1 What is the designated period of winter readiness? 01 November – 31 March.

8.2 Average annual days of snow: 20 – 25 days.

8.3 Average snow depth: 4-6 cm.

8.4 Maximum snow in 24 hours: 12 – 15 cm.

8.5 Annual number of days of de-icing activities: 30 – 35 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Duty roster is based on 16 persons per shift. Up to 25 additional persons subcontracted.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units); 2 Bucher Schoelgerling P17; 2 Bucher Schoelgerling P17; 2 Overmanns RS 400; 14 snow ploughs; 11 air blast sweepers; 1 rotary snow ploughs; 3 front loaders; 2 snowploughs with centre sweepers; 2 turbine snow loaders; 2 spreaders for solid substances; 3 spreaders for mixed substances (solid / liquid); 1 liquid de-icer.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: First: runways. Second: main taxiways according to runway in use. Third: apron, then all other areas.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Depending on current weather situation, wind direction and velocity up to 10 snow ploughs and sweepers will clear the RWY in one direction form a diagonal line. Feet of runway used TWYS connected to the RWY in use will be cleared in the same way. At the same time Taxi-lanes on the Aprons and A/C-stands are swept in sequence.

11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? 25 – 30 minutes for each RWY.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Liquid: SAFEWAY KF Hot 2503m3, solid: SAFEWAY SF 1801, sand 7003m3. Good results at temperatures up to ~12°C, 3 days in dry weather conditions.

12.2 Comment on storage capacities of the chemicals which you use: Sand-silo: 160 m3. SAFEWAY KF Hot liquid: 50, 000 l. SAFEWAY KF solid: 30 “big bags” 750 kg each in store.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Good results were achieved by mixing SAFEWAY solid and liquid as well as sand and SAFEWAY liquid depending on temperature and fall-out.

12.4 Have you experienced any corrosion problems with de-icers? No, but aircraft manufacturers spoke about a suspect that the chemicals used might have a negative impact on carbon brakes.

12.5 Have you employed any special means to minimize the use of chemicals? Good results achieved using “multi de-icing vehicles”. Speeding is not related to speed, no wasting.

12.6 Do you have any other comments on experience with chemicals? None.

12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: N/A

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes. 8 units, manufacturer: “Vesteggaard”.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing is permitted on the aprons only (on stand).

14.3 Is glycol recovered? If so, please state methods:

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 2 VW SHARAN Friction Testers (ASFT).

15.2 Have you any comments on the reliability of friction indexers? Higher liability of ASFT compared to SFT.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? No.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: N/A

16.4 Do you have any winter services equipment which you would like to sell? No.
1. AIRPORT NAME: Katowice Airport

2. MOVEMENT AND MANEUVERING FACILITY DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, others.) RWY 09/27 (168,000sqm);
Total RWY length - 2800m, TORA 2800, width – 60m; RWY “R” (4,048 m2), width – 20m; RWY “B” (5,800 m2), width – 28m; RWY “D” (2,288 m2), width – 13m; RWY “E” 12,13,23, E2 width – 20m, E3 – 23m; RWY “F” (6,160 m2), width – 35m; RWY “S” (11,500 m2), width – 50m; RWY G1, G2, G3, G4, width – 15m; Total APRON area: 72,536sqm – 33 parking positions.

2.2 Lading aids for each RWY (e.g. CAT II ); CAT I lighting: RWY 27 - Precision approach lighting aids; RWY 09 - Simplified approach lighting system.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.”

3.2 Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, the risks and hazards reappraised by internal audits on 02.20Aug, certification audit from Civil Aviation Office on 14.1.7Step and FERA audit on 20.21Oct have been considered to SMS changes by the Board, (new) Safety Manager and Safety Management Committee.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:
[a) Training: Every second year trained by Duty Officer.
[b) Inspection by airline, airport, and airplane handling agency personnel: APRONS: Marshall, Duty Officer, handling agency personnel; TWIs, RWY - Marshall, Duty Officer.
[c) Maintenance (use of sweeping, mag: netic bars, rumble strips, FOD containers etc): We use sweepers and FOD containers.
[d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Described in Airport Operational Instruction approved by Civil Aviation Office. Responsibility of co-ordination: Duty Officer.

4.2 General: Are there any special systems or software solutions you employ for FOD control? Please specify product name and adding any comments: We do not have any software solutions. FOD control by using OHU-4500 “Madero” runway sweeper and visual checks.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The method we use is SMGCS
- visual observation maneuver area by TWR.
- Are any design or engineering changes being undertaken to eliminate perceived hazards? A tight fence round the area of the airport; visual observation and cameras monitored by Airport Security; Thermographic cameras.
- What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X (Aerodrome Design and Equipment): We do not have any safety devices yet.
- Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: We use warnings by road signs, light signs and high-visibility vests.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport operational staff, and other people who work at the airport? There are mandatory trainings about behavior and awareness in operation area.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as “no-punalty” reporting? Yes they have been incidents, which were reported to duty officer & Safety Manager. SM and internal Commission are responsible for investigation such cases.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? We will attend such bird control training courses every year.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Operation team (Marshall, Duty Officer & FAL-CONER) deal with this problem continuously.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer): at present we use: (scarecrow bird gard superpro 
for bird control? (please state relevant supplier/ manufacturer): We carry out a bird strike risk assessment every month and bird clearance every second hour.

6.4 Do you carry out a bird strike risk assessment? We carry out a bird strike risk assessment every month and bird clearance every landing/take-off respectively second hour.

6.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport operational staff, and other people who work at the airport? There are mandatory trainings about behavior and awareness in operation area.

6.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as “no-punalty” reporting? Yes they have been incidents, which were reported to duty officer & Safety Manager. SM and internal Commission are responsible for investigation such cases.

6.7 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer): at present we use: (scarecrow bird gard superpro 
for bird control? (please state relevant supplier/ manufacturer): We carry out a bird strike risk assessment every month and bird clearance every landing/take-off respectively second hour.

6.8 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): The falconers/aviation bird control activities.

6.9 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues handled? (practical measures to manage success in dealing with the problem, and to use in defence in case of lawsuits): Falconer reports daily bird control activities.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type: chassis (e.g. MAN); axles (4X4, 6×6); capacities (kg/litre and type); year of manufacture: 1 Truck Barracuda GCBAP 5,5/50/150 / year of manufacture: 1990; 2 Truck Barracuda GCBAP 10/50/250 / year of manufactures: 1990; 2 Truck Barracuda GCBAP 12/54/250 / year of manufactures: 1994; 1 Truck Rosenbauer Panther GCBAP 6/70/250 / year of manufactures: 2009; 1 Truck Rosenbauer Panther GCBAP 12,5/70/250 / year of manufactures: 2009.

7.2 Future developments – are there plans to purchase or upgrade existing equipment? We intend to buy 2 Barracuda trucks by Rosenbauer Company in 2011.

7.3 If your airport possesses a Fire Fighting Simulator, is this available to other airports for training purposes? We do not have Fire Fighting Simulator.

7.4 Is there a Fire Service department? If yes, provide contact details.

8.8 What is the designated period of winter readiness? In our Airport period of winter readiness begins from 15 October until 15 April.

8.2 Average annual days of snow: 60/70 days.

8.3 Average snow depth: 6.45cm.

8.4 Maximum snow in 24 hours: 10-14cm.

8.5 Outdoor lighting system stating the number of days de-icing activities: 66 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? We have got 15 winter services personnel per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJ5 720, 4 units): Runway snow plough 6m – 7 units; Runway snow plough 8m – 3 units; Road snow plough 3m – 2 units. Runway sweeper: a) OHU 4500 “Madero” 3,5m – 5 units b) OHU 3600 Hydron 3,5m , 4 units. Runway snow plough: a) OLH 3850 Hydrog 3,5m – 3 units. Rotor snow blower (Boschung, Rolfa 1000, Z) – 3 units; Spreader – 1 unit; De-icing sprayer Daman FEA 24m, 6000L+4000kg – 1 unit; De-icing sprayer 18m, 7000L – 2 units; Excavator – Lunit; Agricultural Sprayer 15m , 1000L - 1 unit; Agricultural tractors – 4 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Priority of snow clearance in order of importance are: Runway 09/27 Taxiway “B” Taxiway “E3” Taxiway “R” Taxiway “E1, E2, Taxiway “F” APRON 1 APRON 2 APRON 3.

11.2 State the vehicles, formations and equipment method of runway, taxiway and apron clearance: At the end we enclosed charts and method runway clearance.

11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? After moderate snow, we are ready to achieve “black top” on the runway during 5-10min.

11.4 After strong snow, we are ready to achieve “black top” on the runway during 23-30min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on the effectiveness of chemicals at low temperatures and achieved holdover times etc: We use every year next de-icers chemicals: liquid – CLEARWAY 1, made by Brenntag: total use 3500kg; solid – Urea (carbamide) – total used 17 000kg. At very low temperatures we do not use chemicals. In range temperatures from 0 to -6 centigrade we use:

solid – urea (carbamide) – total used 17 000kg. At very low temperatures we do not use chemicals. In range temperatures from 0 to -6 centigrade we use:

solid – urea (carbamide) – total used 17 000kg. At very low temperatures we do not use chemicals. In range temperatures from 0 to -6 centigrade we use:

solid – urea (carbamide) – total used 17 000kg. At very low temperatures we do not use chemicals. In range temperatures from 0 to -6 centigrade we use:

solid – urea (carbamide) – total used 17 000kg. At very low temperatures we do not use chemicals. In range temperatures from 0 to -6 centigrade we use:

solid – urea (carbamide) – total used 17 000kg. At very low temperatures we do not use chemicals. In range temperatures from 0 to -6 centigrade we use:

solid – urea (carbamide) – total used 17 000kg. At very low temperatures we do not use chemicals. In range temperatures from 0 to -6 centigrade we use:
12.3 Comment on your experience with solid de-icers? If so, please state vehicle or other equipment being used. Yes, our airport directly provides aircraft anti-de-icing operations. We use liquid chemical for aircraft anti-de-icing named CLARIENT SAFEWING MP II FLIGHT, Type II; CLARIENT SAFEWING MP I 1938 ECO, Type I For anti-de-ice aircraft we use special vehicles: Kitokori E1F 2000 – 2 units; Kitokori E1F 4000 – 1 unit.

12.4 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have got special standings to anti/de-icing the positions or do you de-ice on the parking area?

12.5 Have you employed any special means (carbamide) is the most aggressive and corrosion.

12.6 Do you have any other comments on experience with chemicals? During strong freezing rain and drizzle the most efficient chemicals is liquid urea (carbamide) but only to temperature -4 centigrade. Due to aggressive and corrosions we do not apply for the runway and taxways. 12.7 Do you use other chemicals or sand on operational areas? No, we do not use other chemicals or sand on operational areas.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: We do not have any ice warning system.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? We would like to purchase an ice warning system called “ICE ALERT” product by FINDLAY IRVINE.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other equipment being used.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have got special standings to anti/de-icing the aircraft. Aircraft de-icing is carried out on apron1 – snow plough – 1 unit; runway sweeper – 1 unit. 14.3 Is glycol recovered? if so, please state vehicle or other equipment being used.

14.4 Have you employed any special means (water resistant wooden hardboard as well as plastic. 14.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Special training is a mandatory requirement for all individuals permitted to handle any movements on the ground. In order to gain access permission to the airport, each individual who must pass a test following a localized safety and security training, including CAO and EUROCONTROL stipulations and recommendations.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? We usually use two/three of friction testers: SAAB Friction Tester; BOWMONK AFM 2: Airfield Friction Tester; GRIPSTER 210. 15.2 Have you any comments on the reliability of friction indexes? All our comments are included in each SOWTAM.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? No.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Runway snow plough – 1 unit; Runway sweeper – 1 unit.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No. 16.4 Do you have any winter services equipment which you would like to sell? No.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/titre and type); year of manufacture: 4 ea. Oshkosh TA-3000, 6x6, 1590 litres AFFF, 11.356 litres water, 22.70 kilos Halon 1211. All vehicles are manufactured 1992.
7.2 Future developments – are there plans to purchase or dispose of any equipment? The purchase of three CFR vehicles is planned within the next four years.

PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter services personnel are available per shift? 11.30 to 07.30.
8.2 Average annual days of snow: 80 days.
8.3 Average snow depth: 298 cm (accumulated snow through one winter).
8.4 Maximum snow in 24 hours: 34cm.
8.5 Annual number of days of de-icing activities: 36 days.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Total 37 employees, 25 are on five 8 hours shifts (five men on each shift) and 12 on a regular day shift with stand-by responsibilities at nights and weekend. No personnel are sub-contracted.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units; Compact jet sweeper, Schmidt, CJS 914, 1 unit; Snow blower, towed, Danline, 450, 4 units; Snow blower, towed, Schröder, P-17, 2 units; Truck, towing, Scania, P400 with Schmidt MF 9.3 snowblades, 4 units; Snow blower, Oschik, HB 2518-MP-3, 2 units; Snow blower, Oschik, H 2218, 1 unit; Snow blower, Robta 3000, 1 unit; Front end loader, Hough, H-100-C, 3 units; Front end loader, John Deere, 744/844, 2 units; Front end loader, Komatsu, 540, 1 unit; Front end loader, Case, W20C/W24C, 2 units; Front end loader, IHC, H-65-C, 1 unit; Snowploughs, Frink/Ramphog, 6.1 meters, 4 units; Snowploughs, Gjersrad, H.S.V. IV, 2 units; Runway de-icer, Battos, 2000 gal, 2 units; Sand/solid de-spreaders, Nido Stratos, 3 units; Front end loader, spreader, 1 unit; Tractor, New Holland, T6060, 1 unit; Tractor, JCB, Sitemaster 4CX, 1 unit; Multi-function snowblade, Gradmeko, VP-360, 2 units; Snowblade, Schmidt, M-33, 2 units; Truck, DAF, FASC7 75.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority One: Runway in use, minimum 45 m wide and braking action 38 MU or better. Priority Two: Taxiways to and from the active runway from and to the main terminal. Priority Three: Apron and aircraft stands at the main terminal (Terminal Apron). Priority Four: The East Apron and associated taxiways. Priority Five: The runway not in use and remaining taxiways/aprons.
11.2 State the vehicles, formations and general method of runways, taxiways and aprons clearance. Runway: At least four “snow combinations” (ploughs towing sweepers) in a tandem working out from the centerline if wind allows. One plough pushing snow from the edge lights and one or two blowers to blow windows out on the shoulders. Taxiway: Same as on the runway with three snow combinations. Apron: Snow is removed in windrows with all available snow combinations and then pushed into piles in designated locations with ramp hogs. No truck transport of snow.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 20-30 min.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with their use characteristics and their effectiveness on effectiveness of chemicals at low temperatures and achieved holdover times etc: Cleanway F1 (potassium formate) from Kemira. Average annual usage is 80,000 litres. Cleanway SF3 (sodium formate, solid) from Kemira. Average annual usage is 80 tons. Clearway F1 is very effective at low temperatures as anti-icer and has a long holdover time if not diluted with participation. Cleanway SF3 is a good de-icer with a very acceptable holdover time, even at low temperatures. Best results if pre-wetted with Cleanway F1.
12.2 Comment on storage capabilities of the chemicals you use: We have 280,000 litres storage capacity for liquids and a heated warehouse for the solids.
12.3 Comment on experience with solid de-icers, for example mixing ratios with liquids, ”low-away factor” etc: In most cases solid de-icers are very ineffective and slow acting if used dry. Therefore we prewet the Cleanway SF3 with Cleanway F1 in the ratio 25% liquid-75% solid. In this way the solid sticks better to the surface, the melting action begins earlier and is faster.
12.4 Have you experienced any corrosion problems with de-icers? Because of rumours we have checked this thoroughly, but haven't discovered any problems yet.
12.5 Have you applied any special means to economise on chemical use? Yes. 1. By using an integrated ice warning system. 2. By mixing calibrated and the operators thoroughly trained the use of such tools is by far the best way to derive the friction characteristics of runways and taxiways.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Scan, system 16 EF from Surface Systems Inc. USA.
13.2 Do you have plans to purchase further ice warning systems? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Such a system is a very vital part of our operations. It helps us to manage the use of de-icers and monitor the frequent weather changes in Iceland. No disadvantages.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: The airport does not provide aircraft anti-de-icing.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We de-ice on the parking area.
14.3. Is glycol recovery process in use, please state methods, No.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? The MK6 MU Meter and the KU Laser T6810 friction tester.
15.2 Do you have any comments on the reliability of friction indexes? We have been using friction testers since the early seventies with very good results. As long as the equipment is well maintained, properly calibrated and the operators thoroughly trained the use of such tools is by far the best way to derive the friction characteristics of runways and taxiways.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? We are constantly trying to improve our methods in snow/ice control.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. 70% of our equipment is overage. Following a world-wide tender the airport authority has purchased four new “snow combinations” (a Scania P400 ploughing truck towing a Schmidt TJS 560 sweeper) and has the option to buy three more within the next two years.
16.3 Do you currently have equipment or other products on order? Yes (see above).
16.4 Do you have any winter services equipment which you would like to sell? No.

LEIPZIG/HALLE AIRPORT

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Leipzig/Halle Airport.
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other:): RWY 08L/26R: length 3600m, width 45m, TORA 3600m, TODA 3900m, RWY 08R/26L: length 3600m, width 60m, TORA 3600m, TODA 3900m, Shoulder width: 7.50m. Total Apron Area: Apron 1 – 194,000sqm; Apron 2 – 134,000sqm; Apron 4/5 – 533,000sqm.
2.2 Landing aids for each RWY (e.g. CAT II): CAT IIIb.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The IACD Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, we continuously improve our safety performance in our airport operations as a part of the SMS-change management process. Our improvements are the result of investigations of incidents and accidents as well as internal accidents.
4. OHNS WINTER ORGANISATION
5.2 are any design or engineering changes being undertaken/required to eliminate perceived hazards?
5.3 What safety devices are currently employed?
6.1 do your staff attend recognised bird control train-
6.2 are your bird control staff working on the
6.3 What specialist equipment do you employ for bird
6.4 Do you carry out a bird strike risk assess-
6.5 Do your staff log all their bird control activities?

8. EXPERIENCE WITH CHEMICALS
8.1 What is the designated period of winter readiness?
8.2 Average annual days of snow: 175 days.
8.3 If your airport possesses a fire training simula-
8.4 Maximum snow in 24 hours: 10-25cm.
8.5 annual number of days of de-
8.6 have you employed any special means
8.7 do you use other chemicals or sand on
8.8 have you plans to purchase further ice warn-
8.9 ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift?
10.1.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manu-
10.1.2 What equipment is available to other airports for training purposes.
10.3 have you employed any special means
11. WINTER ORGANISATION
11.1 What is the primary method of monitoring
11.2 State which pavement de-icers you use, along with the quantities used last season. Comment
11.3 after moderate snow, how quickly do you expect
11.4 have you experienced any corro-
11.5 have you employed any special means
to purchase or dispose of any equipment?
7.3 if your airport possesses a fire training simula-
7.2 future developments – are there plans
to purchase or dispose of any equipment?
7.1 please detail your CFR vehicle inven-
7.4 comment on your experience with solid de-icers,
7.5 What specific procedures are there for training
and awareness among pilots, controllers, mechan-
ics, airport vehicle operators, and other people who work at the airport? Specific trainings for people who work at the apron or at the manoeuvring areas.
7.6.1 describe your airport's programme
7.6.2 comment on the use of any innovative warnings
7.6.3 if your airport possesses a fire training simula-
7.6.4 fundraiser for runway safety
7.6.5 have the reporting procedures for runway safety incidents been set up jointly with other parties ac-
tive in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting?
8.1 State model and number of ice warning
systems are an effective opportunity to make
the blunting of surfaces – good experiences.
8.2 comment on storage capabilities of the
8.3 comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We use SafeFwy SF (30g/m2).
8.4 Have you experienced any corro-
sion problems with de-icers? Yes, corrosion
problems on vehicles and equipment.
8.5 have you experienced any corro-
sion problems with de-icers? Yes, corrosion
problems on vehicles and equipment.
9.1.1 How many airport-employed or sub-contracted winter services personnel are available per shift?
10.2.1 What equipment is available to other airports for training purposes.
10.3 have you employed any special means
11.1 Please state here order of priority of snow clear-
cleanance of main operational facilities (run-
ways, taxiways, aprons etc) stating identity of
each facility: (1) Runway(s) in use, (2) Taxiways
serving runway(s) in use, (3) Aprons.
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment
on effectiveness of chemicals at low temperatures and achieved holdover times etc: We use SafeFwy KF hot (Clairiant).
12.2 Comment on storage capabilities of the chemicals which you use: 175 m3 de-icing fluid for
storage capacity, 1750 m3 de-icing fluid, for 769,000
litre deicing fluid for aircraft deicing.
12.3 Comment on your experience with solid de-
er, for example mixing ratios with liquids, "blow-away factor" etc: We use SafeFwy SF (30g/m2).
12.4 Have you experienced any corro-
sion problems with de-icers? Yes, corrosion
problems on vehicles and equipment.
12.5 Have you employed any special means
to economise on chemical use? No.
12.6 Do you have any other comments
on experience with chemicals? No.
12.7 Do you use other chemicals or sand on
operational areas? We use explanted shale for
the blunting of surfaces – good experiences.
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning
systems: GFS 2000, Boschung Metacron GmbH.
13.2 Have you plans to purchase further ice warn-
ing systems and if so which model(s)? No.
13.3 Comment on your experiences of the benefits/
disbenefits of ice warning systems. Ice warning
systems are an effective opportunity to make
the decisions regarding the manner of surface de-
ic ing operations (when, where and what extent).
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/
de-icing operations? If so, please state vehicle or
other facility manufactures, and number of units:
Yes, Leipzig/Halle Airport is directly providing aircraft
anti/de-icing operations by PortGround GmbH
(subsidiary of the Mitteldeutsche Airport Holding).
20 units Vestergaard Beta 3 units Vestergaard Beta 15.
14.2. Are you required to have dedicated de-
ic ing positions or do you de-ice on the parking area?
We have dedicated de-icing positions.
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 05R/23L : TORA 3690 m, width 45 m, shoulder 7.5 m - asph - PCN86 RWY 05L/23R : TORA 2340 m, width 45 m, shoulder 7.5 m - conc / asph - PCN56. South apron area: 400,000 m² - Deicing area: 40,000 m² - conc North apron area: 161,000 m² - General aviation: 228,000 m² - conc / asph 2.2 Landing aids for each RWY (e.g. CAT II): RWY 05R: CAT I - PAPI 3° - LHH; RWY 23L: CAT II / III - PAPI 3° - LHH; RWY 05L: Visual APOCH - PAPI 3° - LHH; RWY 23R: CAT I - PAPI 3° - LHH.

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Created by end-Oct 2007 the SMS is compliant with ICAO and Belgian Civil Aviation Authority Standards. SMS Team was updated end-Nov 2010. The SMS is regular updated in close cooperation with all airport operators and BCAA auditors with regard to newly identified hazards, risks, particularly in case of new infrastructure and work on the airfield. Certification audits are conducted every year.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: Theoretical courses and on job training.
   b) Inspection by airtime, airport, and airline handling agency personnel: Runways and taxiways are inspected four times a day, and more if necessary by Airport Inspection and Airport lights inspectors by the Marshalling and handling agencies personnel on each parking stand.
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Daily sweeping programme by special sweeping vehicles, FOD bins installed on each aircraft stairs, FOD containers installed all ramp along, Co-ordination of multiple agencies during airport (airlines, handling agents etc): Co-ordination with all airport users made by reports, poster campaign, ramp safety, airport management meetings, etc.
4.2 General: Are there any special systems or software solutions you employ for FOD control? If so specify product name and add any comments: No.

5. RUNWAY INCURSION PREVENTION
5.1 What are the methods of monitoring vehicle and aircraft movements on the ground? Visual observation, radio contact, airport inspection and marshaller vehicles, SMR under study.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? ARSA Chart published, additional runway guard lights during darkness.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower cost technologies: Use of paint, signs, lighting and other lower cost technologies during darkness.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airfield vehicle operators, and other people who work at the airport? R/T and standard ICAO phraseology course for vehicle drivers, refresher courses and awareness campaign, regular Runway Safety Team meetings.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the "no-punitive" principle such as "no-penalty" reporting? The Civil Aviation Safety Occurrence Reporting is regulated by the Belgian CAA Circular CIR/INS/01 and covered by a Royal Decree 22/04/2005. The "just culture" concept has been adopted by the Independent Investigation Cell for Air Accidents and Incidents of the Ministry of Transportation. Liege Airport is implementing a voluntary reporting.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the wildlife to birds: Long grass policy, no agriculture or vegetation that can attract birds.
6.2 Do your staff attend recognised bird control training courses? Yes, completed in 2009 and refreshing courses planned. People are hunting licensed.
6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Daily from 6 am till 10 pm.
6.4 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Recorded distress calls, pyrotechnics, shotguns.
6.5 Do you carry out a bird strike risk assessment? In SMS included - special study completed in 1998.
6.6 Do your staff log all their bird control activities? (To manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: VM02-SIDES-6x6-water 13400 l - foam 1600 l - output 3000-6000 l/min - VM31-SIDES-6x6-water 13600 l - foam 1600 l - output 3000-6000 l/min - VM54-SIDES-6x6-water 13600 l - foam 1600 l - output 3000-6000 l/min. The Civil Aviation Safety Occurrence Reporting is regulated by the Belgian CAA Circular CIR/INS/01 and covered by a Royal Decree 22/04/2005. The "just culture" concept has been adopted by the Independent Investigation Cell for Air Accidents and Incidents of the Ministry of Transportation. Liege Airport is implementing a voluntary reporting.

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 1 November - 31 March.
8.2 Average annual days of snow: ± 8.
8.3 Average snow depth: ± 5 cm.
8.4 Maximum snow in 24 hours: ± 20 cm.
8.5 Annual number of days of de-icing activities: ± 15 days.

9. WINTER ORGANISATION
9.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 1 wheel-loader with snowplough (working width: 4.2 m) - 1 sweeper-blower (working width: 3.3 m) - 1 "UNI-MOG" MBTRAC with snowplough (working width: 2.9 m) - 1 milling cutter (working width: 2.3 m) - 2 chemical spreaders (solid/liquid: 2 x 6 m³) - 4 compact jet-sweepers with snowplough (working width: 5 m) - 2 jet-sweepers with snowplough (working width: 8.4 m).

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY 05R/23L - S2 - S5 - South apron - RWY 05L/23R - C0 - D1 - C1 - D2 - C2 - North apron. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Standard cleaning plans and procedures are to be followed.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 60 min.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperature.

12.2 Comment on storage capabilities of the chemicals which you use: 100,000 l.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Not been used from 3 years.
12.4 Have you experienced any corroboration problems with de-icers? Not on ACFT - small errors on equipment.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Sensors on the RWY installed - certification in progress.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes but model not yet specified.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Indicators only.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? On parking area - new de-icing area enter in use this year.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? SFT Saab 9-5 and Mu-Meter Mk6.
15.2 Have you any comments on the reliability of the friction tester? All our procedures are improved every year by audits, exercises, workshops and SMS.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? All our procedures are improved every year by audits, exercises, workshops and SMS.

LIMOGES
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Limoges International Airport
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other)
2.2 Landing aids for each RWY (e.g. CAT II): a) Descriptive of the track: Orientation: 034° 214°; Identification Number: 03 21; The track length: 2500 m & The track width: 45 m; Track Type: Clothed more precisely “concrete bitumineux” to allow the execution of automatic landings. This track is used for: The approach precision of Category I; the classiﬁcation of friction measures and index values are necessary.

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes speciﬁes that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identiﬁed by internal/external SMS audits? No modulation, the SGS again is not set up therefore it had not audits internal/external.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training: Obligatory formation “Security on the traffic area” + raising; b) Inspection by airline, airport, and airplane handling agency personnel: Track inspection to the minimum 1 time a day by the SSLA to look for the FOD.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please state methods: no.

5. FUTURE DEVELOPMENTS
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The movement area is under the responsibility of the inspectors of the aerial navigation. Concerning the traffic area, this is the airport operations that checks and oversees through the future System of Management of the Security.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Current modiﬁcation: Put in standard of the fence(close): barrier of 2m 04 with bottom-shutter(bottom-sector,stocking-shutter). The annual recycling of the persons authorized to stream the reserved zone; All the security measures were strengthened: compulsory accompaniment on the areas of laborer(operation), the limited(punctual) control by the agents of safety to verify the port(bearing) of the badge(swipe card), etc.
5.3 What specific procedures are there for training and awareness among staff, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For the staff of airport there is a radio training (formation) for the area of laborer(operation) and a training(formation) of driving/behavior area of traffic which(who) are compulsory. There is an examination has to pass (theory + practice). Zone.
5.4 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as “no-penalty” reporting? A procedure exists to go back up the incident / event by means of one Index card of Announcement of Event (FNE).

6. BIRD AND WILDLIFE CONTROL
6.1 Do you staff attend recognised bird control training courses? The agent SSLA has a basic training for reconnaitre birds + a recycling.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? No specific term in Limoges, it is the SSLA which is the SPPR. Since October 1st, 2009, the SPPR is active 10 minutes before the sun-set until 10 minutes after the sunset.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): An anti Helim Rustles; Pistol CAPA(POSTGRADUATE LEGAL QUALIFICATION); A hunting gun; Effaroucheur Sonore Light gun 9 mm; Crowls/Pliers to remove debris etc.
6.4 Do your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Beaten to the big animals (venison, wild boar...). The tower and the SSLA organize the beaten with the representative of the regional Delegation of the Civil Aviation. Beaten to the big animals (the venison, The wild boar...). Only the persons (SSL A) holding a hunting permit (validates) recognized by the civil aviation and the prefecture can participate beating. All movement will be signaled to the tower. The measures of security will be applied. Once the killed animal, It is retrieved to the SSLA. The tower will be warned send by the SSLA.The equinarrisseur is warned by fax or by telephones to come to resume the animal.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Four vehicles of urgency: 4X4 MITSUBISHI Shl put in service 01/09/2004; a power of 10 Ch; category: VSM-Recherche, out in service 01/11/2010; A truck put in service 12/02/1990; mark: SIDES; category: VIM P6 1.8; a power of 26 Ch; A truck put in service 25/04/2001; mark: SIDES; category: VIM P6 2.5; a power of 30 Ch; A truck put in service 09/06/2008; mark SIDES; category: VIM 90 P2.5; a power of 34 Ch.

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? November – March.
8.2 Average annual days of snow: 10 days.
8.3 Average snow depth: 7-10 cm.
8.4 Maximum snow in 24 hours: 10-20 cm.
8.5 Annual number of days of de-icing activities: 50 days.

9. WINTER ORGANISATION
9.1 How many airport-employed or subcontracted winter services personnel are available per shift: 17 airport-employed. No employees under treating for this mission.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating number, make, model and number of units (For example: compact jet sweeper, Schmidt, CJ5 720, 4 units): Material of snow clearing: Vehicle 1: 1 tractor VALTRA of 200 CH and equipped with has blade of snow and of has rotary broom. The VALTRA will be equipped by year expander VICON. Vehicle 2: 1 tractor ZETOR of 56 CH and equipped of has blade and of has blade a snows. 1 sleeps it off epandage of 2000 L of product déverglacant. 1 sleeps it off storage of 14000L of product déverglacant. Equipment used for the de-icing operations. A de-icer FMC type: ref: 0401 with 1 anti-icing tank of 1514Lts capacity and 1 de-icing tank 75/25 of 6057Lts capacity.

11. PROCEDURES AND METHODS

11.1 Please state order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: The operations of snow clearance and of déverglage are divided in two sectors: Priority sectors: Track; Way of circulation taxiway “C”; Zone minimum of parking had; Zone release service SLSA - zone heliport French police force; Zone deposit fuel; Zone shed n° 3. Non priority sectors: Public garbage collection; Garbage collection of service; Way of circulation taxiway 03; Entropy of the parking lot had; Entropy of the parking lot aeroclinet. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: a) Snow clearance on 30 meters minimum For the snow clearance and after contact with the concerned airline companies, it suits to release a sufficient width of 30 meters minimum on the whole length of track. The snow pads (not compact and not frozen) will be removed and pushed out track (a snow pile becomes pad when his height attains 30 cm), while avoiding the critical zones (glide, PMI...). Lateral fires of track. It uses the lateral ROLBA of turbine to reject the snow ropes that could mask the fires. The sunk Fires it will have to assure himself that the passage of the blades or ROLBA of lateral turbine on the sunk fires does not provoke any deterioration. If the need is, proceed to a new adjustability one blade. b) Order of principle of the interventions Total ignition of lateral and axial beaconing to a limited intensity (in case of bad forecast for the nights of during the weekend to warn the electricians beaconing so that they assure themselves beaconing in case of beaconing an intervention had to be foreseen). The vehicles of snow clearance go directly in line with the taxi way central and climb back up heading for the threshold 03. The vehicle body must work on either side of the axis of the taxi way central, in line, in order to avoid to every passage the systematic continuation of the layer of snow. Release the track rackets while pushing the snow towards the exterior one not to do accumulation of snow to the track extremities. After the operation of snow clearance, The track state is checked by the SLSA under the authority of the Civil Aviation (in expectation of the signature of the protocol between the SNA and exploiting it), c) Traffic areas it is necessary to release the parking lot to assure the airplane departure in parking or allow moving them. Total release of the parking lot without blocking the aircraft. On the parking areas the snow is repressed towards the exterior one: extremities, sides, way of the deposit of fuels. A storage zone is created to each of the extremities. It suits equally to release the access ways between the sheds, as well as the access ramps to the terminal basement. d) Road service and terminal parking areas, the snow is repressed according to the availability of equipment and after release of the priority zones, if possible, the assistance of the other services (former: salting to the terminal approaches). Equipment: tractor ZETOR with blade to snows and rotary broom truck IVECO with blade to snows épandeur manual.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Year 2008/2009: SAFEGrip (liquid): 4500 litres; CLEARWAY 1. (liquid): 1000 litres; CLEARWAY 9F (solid): 1 tonne; CLEARWAY 65 (solid): 0. 12.2 Have you experienced any complications with de-icers? No. 12.3 Do you have any other comments on experience with chemicals? No. 12.4 Do you use other chemicals or sand or de-icing alternative? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes, 1 defroster FMC Tempest of a capacity of 6000 i of liquid de-icers and 1500 i of product antifreeze.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? The airplanes are defrosted on the parking area. 14.3 Is glycol recovered? If so, please state methods: There is not recuperation of product for the moment at limoges.

15. FUTURE DEVELOPMENTS

15.1 Are you about to change any of your airport’s methods? Airport is in the middle of the study in the law framework on water.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Airport is in the middle of the study in the law framework on water.

LINEATE

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Milan Linate Airport

2. MOVEMENT AND MANOEUVURING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Runway 18-36, 256,000 sqm; Taxiway-holding bay: 134,000sqm; North Apron: 322,000 sqm; West Apron 65,000 sqm; TORA: 2.442m.

2.2 Landing aids for each RWY (e.g. CAT I): RWY 36 CAT IIB.
Safety Committee, the reports on runway safety events are discussed with the airport operators involved. The Committee is represented by ATS.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? A dedicated unit called Bird Control Unit has been created to ensure the bird control and exclusion in the airport. The BCU is composed by a group of professional figures (biologist). The training activity refers to birds biology and attitudes, the procedures to be carried out in order to avoid the presence of birds in airport and on the monitoring data collection. The training activity refers also on procedures of airport circulation and safety manual.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.

6.3 What specialist equipment do you employ for bird control? Please state relevant suppliers (spat-plier/manufacturer): (Spacemaster) fixed dis- sulsion system with 2,5 kHz to 20 kHz sounds, 2000 W power; shotguns, distress call, L-RAD.

6.4 Do you carry out a bird strike risk assessment? Two wildlife studies were carried out in 2002 and 2009. A brief risk as- sessment report is carried out monthly.

6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Wild rabbits, hares, foxes and nutrias.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Poseidon 2 Autohydrofoam MAN 8 X 6; Dragon X 6 1 Autohydrofoam/Powder IVECO 6 X 6; Dragon X 6 2 Autohydrofoam/I600 6 X 6; Superdragon 1 Autohydrofoam/Powder IVECO 8 X 8; Rampini 2 Sirmac 4 X 4; ASA 1 Rescue vehicle IVECO 4 X 4 APS 1 Autopump IVECO 1 NBRC vehicle BA; Actros 1 Support tanker Mercedes 4 x 4.

7.2 Future developments – are there plans to purchase or dispose of any equipment? No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 November – 31 March.

8.2 Average annual days of snow: 5-7 days.

8.3 Average snow depth: 7-10cm.

8.4 Maximum snow in 24 hours: 20-25cm.

8.5 Annual number of days of de-icing activity: 400.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services person- nel are available per shift? 97 + 85.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purchase, manufacturer and number of units (for example: compact jet sweeper, Schmidt, CJS 720, 4 units); SEA supply ice/snow blower 1.990 st, 3 turbo- tillers rolla 1000r; 3 Fresia elf-propelled polishing machines; 1骗子 on land rover – defender; 1骗子 oner on keco 135 8; 1 crawlers prinoth 1.3 (snowmobile); 2 de-icing sprayers track schmidt gletti; 2 Saab skidometer; Schmidt 2 sweepers sweeping, Total: 19. Third parties supplies polishing machines for low trucks and apron: 2; machines for knife attack mount 4.5; 20 loading trucks for snow; mechanical shovels 10 hp 70/100; 21 tractors with blade mt. 3.2 and 2.5; 3 tractors with brush front mt. 2.5; 1 brush truck with front mt. 4.5; 2 door mount towing lamaper lame mt. 2.5; 8 mini excavators; 2 trucks for loading and snow removal; 1 truck spreader. Total: 82. Blades & brushes:10 lame rola ar 450; 16 lame rola sl 25; 9 lame Apron; 2 lame 2 v; 2 polishing machines moved roba Viking; 1 brush front Fresa; 4 front brush Schmidt; 3 blades “v”. Total: 47.

11. PROCEDURES AND METHODS


11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Operations on runways and taxiways are performed with sweepers, snow blowers and liquid spread- ers. Operations on aprons are performed with blades. Snow is amassed and removed, after- wards pavement is treated with glycol liquid.

11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? Approx. 20 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Com- ment on effectiveness of chemicals at low tem- peratures and achieved holdover times etc: Safety Ka; Safety SD. Safety SD has been used to prevent deposit of snow on pavement. Safe- way SD has been used in case of pavement with ice and subsequently treated with liquid.

12.2 Comment on storage capabilities of the chemicals which you use: Safety WA, 100,000 litres; Safety SD, 100,000 Kg.

12.3 Have you experienced any corro- sion problems with de-icers? No prob- lems occurred with chemical use.

13. AIRCRAFT DE-ICING

13.1 Do you currently provide airport anti-/ de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: De-Icer Elephant Westergaard, 6; De-Icer Struwer, 2.

13.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes, we have dedicated de-icing positions.

13.3 Is your airport snow covered? If so, please state methods: The glycol is recovered in underground metal containers.

15. FRICITION TESTING

15.1 What model(s) of friction tester do you use? Runway friction tester vehicle SAAB SFT9000, 2 units.

15.2 Have you any comments on the reliability of friction indexes? No comment. Once a year, SEA per- forms a calibration check with ASFT technical support.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your air- port’s methods? No changing in the short term.

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Airport Jozeta Pucnika Ljubljana

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary opera- tional facilities on the ground and their spatial disposition. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Single RWY; 3300 x 45m, TORA 3300m, RWY strip 4320 x 300m.

2.2 Landings for each RWY (e.g. CAT II): RWY direction 31 ILS CAT II / III B; 125m RVR Landing minima: RWY direction 13 ILS CAT II / III B; 100m RVR Take off minima.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS conforming to the requirements of risks and hazards identified by internal/external SMS audits? SMS is under review.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:

a) Training: FOD training for staff em- ployed at the air-side. The FOD preven- tion management programme is in use.

b) Inspection by airline, airport, and airline handling agency personnel: Airside FOD inspections are regular done and recorded. On the request the additional inspection was done.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): For mechanical airside pavement surface cleaning we use the vacuum sweepers and special FOD bow carpets. Aircraft park- ing positions are equipped with special FOD containers (yellow containers with black visible sign “FOD”).

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): There is coordination for FOD between multiple agencies using the airport.

4.2 GENERAL: Are there systems or soft- ware solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground?

Primary is the communications method.

5.2 Are there any engineering changes being un- dertaken/required to eliminate perceived hazards?

The full parallel TWY for RWY has been completed in 2010.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS) or ASDE-X, the Model X Airport Surface Detection Equipment): NO special safety devices.

5.4 Comment on the use of any innovative warn-
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator with all the snow other airports for training purposes? No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? From the 1st of Nov until 30th of Apr.
8.2 Average annual days of snow: 32 days.
8.3 Average snow density: 200 kg/m³.
8.4 Maximum snow in 24 hours: 50cm
8.5 Annual number of days of de-icing activities: Roughly more or less 120 days.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift?
1. 4 to 6 employee for a/c de-anti / icing 2. For ground operations: 3 employees.
9.2 What specialist equipment do you employ for bird control?
(please state relevant supplier/manufacturer): Pyrotechnics; Shot guns; Scare crow.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly?
Bird control staff performing bird control in half an hour base for special part of day light.
Other wise, at the times of day light.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pyrotechnics; Shot guns; Scare crow.
6.4 Do you carry out a bird strike risk assessment?
The need for bird strikes risk assessment depends on the actual threat that bird presents on the airfield. It was done once a year.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example: compact jet sweeper, Schmitz, C270, 4 units):
1. Snow clearing - aiside: 1x Friction tester SAAB; 1x Renault Cango with friction tester SARSYS; 4xBlower sweeper, Schering P17 and P17B, 6m - 30km/h; 2x Blower Sweeper, Schering P12, 6m - 30km/h; 1x Snow plough, Schmit, 5.4m 7x Snow plough, Riko, 5.2m; 1x Snow plough, Schmit, 2.5m; 3x Truck Mercedes 2031; 3x Truck Mercedes 2032; 1x Truck Mercedes 2032 with combined spreader EPOKE SH 4520 (solid and fluid); 2x Truck TAM 260 TB; 1x Snow blower Mercedes UNIMOG 1200 with spreader for solid; 2x Snow blower BUCHER ROLBA 3000; 1x Spreader for solid.
2. Snow clearing – landside: 1x Tractor Store with plough; 2x Tractor Ferguson with plough; 2x Tractor Ferguson with plough and spreader for solid; 1x Truck TAM 170 T14 with plough; 1x Truck TAM 170 T14 with plough and spreader for solid PITCH; 1x Snow blower UNIMOG SCHMIT.

11. PROCEDURES AND METHODS
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 1. During the standby readiness: The number of vehicles and its formation during standby position is a part of snow management programme that is issued each year. 2. In the time of snow removal action on manoeuvring areas: The snow removal coordinator is responsible for monitoring the MET conditions. He performs RWY frictions measurements that is reported to ATC and MET office. Removing of the snow from the manoeuvring areas is performed by 6 units. Each of them are consists of truck, snow plough and airstream unit. The snow from the RWY and TWI edge is removed by snow-blower. All operations on the main apron are coordinated by snow coordinator on ground which is all the time in radio contact with ATC (TWI). 3. In the time of snow removal from main apron: Snow removal from the apron is performed with 2 units, consists with plough and airstream sweeper and special snow blower. However there are units from RWY as soon as available. All operations on the main apron are coordinated by snow removal coordinator and GNC (TWI). 4. Roads & open parkings – land side: Public roads and open parking are under treatment of the conventional road ploughs and snow blowers by sub-contracted partner.
11.3 After moderate snow, how quickly do you expect to clear the RWY surface? 15 minutes.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Urea (solid) approximately 40 tons / effective till ~-5°C - C - hold over time depend of weather condition approximately 1000 / effective till ~-25°C.
12.2 Comment on storage capabilities of the chemicals which you use: We have suitable chemicals storage capabilities.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquid: “blow-away factor” etc: the mixing ratio approximately 10 – 15 % of Safety with Urea is shown as the most effective for the de-icing treatment.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? Urea (solid) / advantage: cost, spreading, storage / disadvantage: enviroment, the time of effect start, ineffective at lower temperature, blow factor. Safety (liquid) / advantage: more effective for different winter conditions / disadvantage: high cost, storage.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: There is freezing point detector at RWY touch down zone (ILS approach).
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes, there is a plan for installing an advance ice warning system on RWY. The construction work for it has been prepared in the time of the RWY re-construction this year.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: It offers the reliable information of RWY surface condition and what is essential on time warning for icing condition.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: 2x De-anti / ICER, Vestergard, Elephant Beta; 1x De-anti / ICER, TB 8000; 1x De-anti / ICER, Vestergard, Elephant Garna.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area?
At most de-anti icing is performed at dedicated de-anti icing pads. In some circumstances the de-anti icing is performed at a/c stand. 14.3 is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Saab friction tester, SARSYS friction tester. 15.2 Have you any comments on the reliability of friction testers? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No. 16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. No. 16.3 Do you currently have equipment or other products on order? If so, please provide details included out of order at shift change: No. 16.4 Do you have any winter services equipment which you would like to sell? No.

London City Airport

PART 2: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: London City Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, taxiway, stands etc.) Ramp area: Rwy 27 Rwy 09, TORA 1199 1199, TODA 1385 1319, ASDA 1319 1319, LDA 1319 1319, Width - 30m 2.2 Lading aids for each RWY (e.g. CAT II): Our runway is un categorised.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 What is your airport's programme to control FOD in terms of: a) Training: All airside personnel must attend an Airside Awareness course once every 12 months. b) Inspection by airline, airport, and airplane handling agency personnel: FOD patrols are carried out each day, continuous, hourly, less than hourly? Continuous.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual observations by ATC 5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No. 5.3 What safety devices are currently employed? (a-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None. 5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lightning and other lower-cost technologies: All signage and markings are in accordance with CAP168 requirements. 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work in the manoeuvring area? Airport Authority Chairs a Runway Safety Team consisting of representatives of all agencies that operate in the manoeuvring areas and a selection of pilots operating at the Airport. LCY also host a Pilot Forum twice a year.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Constant bird patrols. Management of the grass area on the airfield. We also employ the services of an external consultant to audit our processes and procedures.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously. 6.3 What species of birds do you employ for bird control? (Please state relevant suppliers/manufacturers): "Scare Crow" recorded distress calls, pyrotechnics, shotguns, very pistol, lure, rockets.

6.4 Do you carry out a bird strike risk assessment? Yes. 6.5 Do your staff log all their bird control activities? (to manage any issues/dealing with the problem, and to use in defence in case of lawsuits): Yes. 6.6 Does your airport have problems with wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type (e.g. small; MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture: 1 x SGS Protector Medium Foam Tenders carrying the following amounts of extinguishing media: a. 6000 litres of water and 720 litres of FFFP foam liquid. b. 1 x 50lt Mornex Dry Powder pressurised unit.

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter respective? October to March. 8.2 Average annual days of snow: 4. 8.3 Average snow depth: 5mm. 8.4 Maximum snow in 24 hours: not recorded.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are working on site? 18.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units. (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 1 x Schmidt TS590 Snow Sweeper (primary); 1 x Danoline 2000 Snow Sweeper (secondary); 1 x Orcharding Snowblower (secondary); 1 x Sicard 314D Snow Sweeper (back up); 3 x Gemsprayer de-icer units; 3 x Mini gemsprayer de-icer units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway, taxiway, main parking stands, jet centre apron.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Kilfrost runway, holdover time up to 3 days if there is no following precipitation.

12.2 Comment on storage capabilities of the chemicals which you use: 1 x 25,000lt bunded tank.

12.3 Have you experienced any corrosion problems with de-icers? No. 12.4 Have you employed any special means to economise on chemical use? No. 12.6 Do you have any other comments on experience with chemicals? No. 12.7 Do you use other or Apicals or sand on operational areas? Kilfrost aircraft type 1 & 2 are utilised by the aircraft deicing team.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: None at present. 13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes, Ice Alert.

14. AIRCRAFT DE-ICING

14.1 Does the aircraft directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes – 3 de-icing vehicles.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking
15. FRICITION TESTING

15.1 What model(s) of friction testers do you use? Grip Tester.

15.2 Have you any comments on the reliability of friction indexes? Good.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s equipment? Yes – Schmidt Tower Jet Sweeper 560.

16.2 Do you plan to purchase any new equipment or other products on order? If so, please provide details: a) training: included as part of initial Induction Training for all staff required to work on the airfield.

16.3 Do you currently have equipment or other products on order? If so, please provide details: a) training: included as part of initial Induction Training for all staff required to work on the airfield.

16.4 Do you have any winter services equipment which you would like to sell? 1 Schorling brush/blower towable unit.

LONDON GATWICK

1. AIRPORT NAME

London Gatwick

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), Runway Holding Area, total apron area, ramp area, other: RWY 08R: 3316 x 46m,TORA 3159m, TORA 3131m, ASDA 3233m, LDA 2766m; RWY 26L: 3316 x 46m, TORA 3255m, TORA 3407m, ASDA 3316m, LDA 2831m; RWY 08L: 2565 x 45m, TORA 2565m, TORA 3040m, ASDA 2565m, LDA 2243m; RWY 26R: 2565 x 45m, TORA 2565m, TORA 2703m, ASDA 2565m, LDA 2148m, 26L has a 150 m starter extension The 26L landing threshold is displaced by 424m. The 08R landing threshold is displaced 393m. Paved shoulders extend 7.5m beyond each side of Runway O8R/26L. Paved shoulders extend 15m beyond each side of Runway O8R/26L. The O8L landing threshold is displaced by 322m. The 26R landing threshold is displaced 417mm. A maximum weight limit of 562,000kg applies to landings and take-offs on Runways 08R/26L and 08L/26R. 1,900,000 sqm of manoeuvring area.

2.2 Landing aids for each RWY (e.g. CAT II): RWY 08R CAT III, RWY 26R CAT III. Runway O8L/26L is a non-instrument runway and will only be used when Runway O8R/26L is temporarily non-operational. RWY 08L/26L has red and white barriers installed and strobe lights installed on runway 08L/26R.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? GALS has a well-developed Safety Management System. The GAL board oversees this through the Managing Corporate Responsibility Board (MCR). Each department operates a risk register. Risks are identified, mitigated and reviewed at departmental levels and at the Managing Corporate Responsibility Board. They are captured on a company standard risk register. The risk register is reviewed and updated quarterly. When there is a change in procedures/process (current and future) and when new equipment is put into operation, a new risk and control process is introduced; Incident review; High level risks reviewed monthly at the Managing Corporate Responsibility Board; A CAA Major Audit carried out in October 2010 found no issues with the Gatwick Airfield SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Details of a Friction Division programme to control FOD in terms of: a) Training: Included as part of initial Induction Training for all staff required to work on the airfield.

b) Inspection by airline, airport, and airline handling agency personnel: GAL require Handling Agent Dispatchers to carry out a FOD inspection of aircraft stands, prior to each aircraft arrival. GAL have an Airfield Operations team who continually monitor the airfield for FOD and carry out removal as required. GAL issue a number of Directives covering various airfield issues, one of which is FOD prevention and the responsibility of all airfield users to minimise FOD generation and ensure that any FOD is disposed of in the correct way. Three Tier inspection process by Airfield Operations. Routine, detailed and Senior Management audit.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): The GAL Airfield Support staff operate mechanical sweepers, in addition to manual sweeping, and this inspection is carried out on aircraft stands for collection of small items.

Strategically positioned FOD fences to catch wind blown debris.

Airfield civils maintenance programme. Slips placed on the airfield must be issued with a permit and be covered with a lid. Airline cleaning contractors trailers must be totally enclosed. Airfield Projects work sites must conform with FOD fencing standards, which do not allow FOD to escape from the site. An Airport Directive requires all vehicle cabs to be free from FOD at all times.

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Any FOD issues are raised at the quarterly Airside Safety Group meetings chaired by GAL and attended by third party airside companies. A programme of inspections of specific areas is undertaken by GAL Senior Airfield Management and Handling Agents. Some joint FOD walks have been undertaken by GAL and airlines. GAL carry out a number of third party audits each year and those being audited are required to give details of their Company FOD policy. GAL require Handling Agent Dispatchers to carry out a FOD inspection of aircraft stands, prior to each aircraft arrival. Gatwick Airport Directive (GAD) – FOD. 4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments). No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? RTF. A-SMGCS, RIMCAS.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No – however, GAL are considering the use of a FOD radar.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASD-E-X, the Model X Airport Sensor). A-SMGCS and Aircraft Detection Equipment (ADE).

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Runway Ahead sign at holding point Bravo 1. All runway entry points are CAP 168 compliant. The use of shutters on “Start of Roll” boards when runway O8L/26R is not active. Threshold strobe lights installed on runway O8R/26L. Holding point Alpha has red and white barriers installed to prevent vehicle induced runway incursions.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Driver training course, specifically for those who are required to drive on the airfield using a regular vehicle. In addition, all third-party drivers receive a training package. The package includes a general awareness of the need to be vigilant around the airport and what to do in the event of a potential hazard. The training is conducted by the local airport authority and is mandatory for all personnel who operate vehicles on the airfield.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Airfield Manager is designated as the Bird Co-ordinator and bird hazard management duties are carried out by the Airfield Duty Team H24. GAL uses the standards below to control birds on and around the aerodrome in accordance with CAP 772. Bird Strike Hazard Map. A bird hazard safeguarding map is maintained. This is based on an Ordnance Survey map and highlights the assessed local hazards and also shows on a wider scale such sites as landfills, gravel extraction, and water bodies.

Local Bird Calendar - Gatwick Airport have an aerodrome specific bird calendar. The calendar is based on statistical data collected over a number of years. The calendar is used on a monthly basis as a predictive tool during the year to assess any likely change to the bird strike hazard. Local Bird Hazard Management Working Group - The group meet quarterly to discuss bird strikes, habitat management issues, risk assessments, and training issues. The group also track recommendations/action points from
audits. The group have standard terms of reference and the members include airfield operations, landscape management, bird management and any other individuals concerned with bird hazard management. UK CAA Birdstrike Committee – Gatwick Airports has representation on this Committee. All Airfield Operations personnel who carry out bird hazard management duties are trained and hold a firearms certificate which must be revalidated every 5 years. All the presence of birds in large numbers is thought training course and to ensure competency, periodic refresher training is undertaken in the use of firearms, bird hazard management operations and local ornithology. Comprehensive records are kept of all bird control activities and firearms training and assessments. All vehicles involved in bird hazard management activities are suitably equipped and maintained. Birds are detected and dispersed; warning can be passed to aircraft and ATC about the presence of flocks of birds on the airfield; the formation of night roosts is prevented. Bird patrols are carried out across the active airfield. All areas are patrolled, with emphasis rather than concentration being on the active runway, Bird Hazard Assessment / Warning: Bird hazard assessment is carried out via the tactical bird patrols and strategic analysis by the Bird Co-ordinator and Operations Management. Aircrew are warned when ever the presence of birds is thought to constitute an immediate hazard. This is done by informing Operations or ATC by radio, this warning then being passed on to aircraft directly or via ATIS. In the event of a prolonged infestation of birds on or immediately adjacent to the airport NOTAM action may be taken to warn air crew of the hazard. This should only cover periods of short to medium duration and will be cancelled when the hazard ceases to exist. All wildlife strikes or suspected strikes are investigated and reported immediately by Airfield Operations or ATC. An electronic Wildlife Strike Occurrence Form (CAA Form 1282) is completed online via the CAA website by Airfield Operations on all occasions where there is a confirmed or unconfirmed strike. 6.1 Do your staff attend recognised bird control training courses? See above. 6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously. 6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Davis Petsols, Hmr Bolt Action Rifle, Umarex Magnum loaded Air Rifle, BSAA Break Action Rifle, Shotguns, Larson trap, Netting of open water, ice, Ponds. 6.4 Do you carry out a bird strike risk assessment? Yes – via FERA (The Food and Environment Research Agency). 6.5 Do your staff log all their bird control activities? Yes – logs are maintained in dealing with the problem, and to use in defence in case of lawsuits): Yes – use of Ultima. 6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No. 7. CRASH FIRE RESCUE 7.1 Please detail your CFR vehicle inventory stating: vehicle type; class (e.g. MAN); ages (4X4, 6X6); capacities (kg/titre and type); year of manufacture; Mitsubishi L500; Isuzu Clearway; MAC 08 Fire 3; Kronenburg MAC 11 Fire 4; Kronenburg MAC 11 Fire 5; Kronenburg MAC 11 Fire 6; Kronenburg MAC11 Fire 7; Scania Hboa Layer Fire 8. Total water capacity: 50,000l. Total Foam capacity: 7,040l. Total Monitor discharge rate: 22,500/min. Total BCF capacity: 100kg. Total Monex dry powder: 345kg. 7.2 Future developments of these plans to purchase or dispose of any equipment? New fire appliances being purchased over the next 18 months. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes. 8. RECENT WINTER CONDITIONS 8.1 What was the severity of recent winter conditions in terms of weather? 1 November to 31 March. 8.2 Average annual days of snow: December 2009: 9 days of Anti/De-Icing; 207,000 litres of Clearway 3/Konsin used. 12 days when Snow Warnings were received from the Met Office; 2 Occasions of Heavy Snow causing closure of Runway. 17th – 18th December 2009 8hrs 5 mins; 21st December 2009 3hrs 35 mins. January 2010: 18 days of Anti/De-Icing; 296,000 litres of Clearway 3/Konsin used 20 Days when Snow Warnings were received from the Met Office. 2 Occasions of Heavy Snow causing closure of Runway. 9th – 6th January 2010 20 hrs. 13th January 2010 12hrs 11 mins. February 2010: 8 days of Anti/De-Icing. 8 days of Anti/De-Icing. 8 days of Anti/De-Icing. 8 days of Anti/De-Icing. 8 days of Anti/De-Icing. 7 days when Anti or De-icing activities were undertaken; First date 30th November 2009; Last date 1st March 2010. Total Media Used: Clearway 3 (litres) 4409198; Konsin (litres) 141810; Clearview 85 Solid (lts) 77850. 9. WINTER ORGANISATION 9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Runway & main Taxiways: Control – 2nd Airfield Duty Manager, Staff Airfield Operations Support Team, Aprons (Cul-de-sac & Aircraft Parking Stands); Control – 2nd Senior Airfield Operations Staff, Staff Airfield Operations Support Team, Airfield Operations Controllers, Airfield Fire Service (Additional to Fire cover), Airfield Ground Lighting Technicians, Contractors. Passenger Walkways, Airside Roads and Airside Transfer Bag: gage areas: Control – Designated Airfield Operations Control, Staff Stand Allocators (Additional to Stand Planning), Additional Staff from other Departments, Contractors. (Control Room/Administration: Control 1st Airfield Duty Manager, 1st Airfield Senior Controller Gatwick Airport Snow Plan, Winter 2010/2011, 16 Staff Airfield Operations Controller. Stand Planning: Control 1st Airfield Duty Manager (Ops 1), Staff Stand Allocator. 10. WINTER EQUIPMENT INVENTORY 10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units); Schorning sweeper / blower 8; Eagle sweeper / blower 3; Unimog cutter / de-icer 11; Traier de-icer 1; Scania de-icer / spray bars 1; Scania de-icer / spinners 1; Snafier traler de-icer / spray bars 1; John Deere All- man de-icer / spray bars 2; John Deere sully spreader 2; John Deere winch 2; John Deere de-icer 2; John Deere brush cutter 2; John Deere de-icer 1, 2; John Deere de-icer 3; John Deere de-icer 4; John Deere de-icer 5; John Deere de-icer 6; John Deere de-icer 7; John Deere de-icer 8; John Deere de-icer 9; John Deere de-icer 10; John Deere de-icer 11; 11. PROCEDURES AND METHODS 11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: a) runway(s) in use, b) runway(s) will be required and at start; b) runway holding areas, taxiways and aprons that are to be used; c) all other areas and roads. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The method of clearing snow will vary in detail with the severity of the snow event. The principle will be to use the Runway Snow Sweepers in echelon formation using the de-icer strip to assist the sweeping operation. Ploughing on the runway(ies) should be stopped short of the white edge marker lights and grass area with the resultant accumulations of snow being blown clear by use of a snow blower or other piece of selected equipment. Sweeping operations will where appropriate normally be followed up by a runway de-icer to apply a chemical anti-icing agent. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Moderate snow - visible settling up to 3cm; Runway sweeping commences, requiring restricted runway operations and clearance on taxiways and stands. Significant delays are likely to occur and some cancellations or re-routes may be necessary as a result of reduced ATC arrival and departure rates. 12. EXPERIENCE WITH CHEMICALS 12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: CLEARWAY 3 – Liquid acetate chemical; CLEARWAY 65 – Solid acetate chemical; Brotherton Solid formate chemical; KONSIN – Liquid Glycol chemical (Will only be used at the discretion of the Airfield Duty Manager in line with London Gatwick Airport – Airfield Operations - Konsin Usage Checklist); GRIT – Conforming to the latest published version of BS 812, 1973, Part 3. 12.2 Comment on storage capabilities of the chemicals which you use: We have two storage tanks each capable of storing 85,000 litres, we will soon (by 29th November) have another two tanks each being able to store 85,000 litres. Total storage capacity 340,000 litres. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “slow-away factor” etc: Our solid De-icer is to be applied at a rate of 10kg per metre, with a liquid anti-icer because of the of the blow away factor. However, we find using it on stands that are unlikely to be used within an hour solid de-icer is great solid, as long as it is given time to work. We will soon (by 29th November) have another two tanks each being able to store 85,000 litres. Total storage capacity 340,000 litres. 12.4 Have you experienced any corrosion problems with de-icers? No reported issues. 12.5 Have you employed any special means to ensure the effectiveness of de-icers? No reported issues. 12.6 What are your experiences regarding anti-ice additives, for example mixing ratios with liquids, “slow-away factor” etc: Our solid De-icer was to be applied at a rate of 10kg per metre, with a liquid anti-icer because of the blow away factor. However, we find using it on stands that are unlikely to be used within an hour solid de-icer is great solid, as long as it is given time to work. 12.7 Do you use other chemicals or sand on operational areas? We use Grit on passenger walkways only.
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Vaisala.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? As part of the runway re-habilitation work we will be using more sensors on the runway. However, the ASFT will give us this information too and we will be using this as a constant monitoring device.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: They are great as a tool, but still require the human decision making process to happen and I don’t think that any measurement device should ever make the decision.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Aircraft anti/de-icing operations are carried out by third parties, i.e., handling agents.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing is carried out on aircraft parking stands, with a contingency of using taxways can be brought into operation if required.

14.3 Is glycol recovered? If so, please state methods: Yes – mechanical sweeping.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? ASFT Mark 4 Airfield Surface Friction Tester.

15.2 Have you any comments on the reliability of the friction index? No.

15.3 Have you comments on the reliability of friction indexes? No.

15.4 Have you any comments on the reliability of friction indexes? No.

15.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? NATS (National Air Traffic Services) in conjunction with STAL have held a number of formal forums and drop-in briefings around runway incursion awareness. The target audience has been pilots, handling agents, controllers and the like. This process is set to continue as new learning comes from the statistical data and any local incident reviews. There is also a quarterly Local Runway Safety Team chaired by STAL and NATS representatives. Beyond these forums, the driver training packages now contain content around incursion awareness for staff whom operate on the manoeuvring areas.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? A-CDM Implementation Programme; Release 1, 2 and 3 implemented; Release 4 and 5 – future development.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Fire appliances – Rosenbauer Panthers x 3 – 2011 – an additional 3 in 2013.

16.4 Do you have any winter services equipment which you would like to sell? No.

LONDON STANSTED

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Stansted Airport

2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other; Runway Specification: Width = 46m; Shoulder width = 7.6m Area = 140,208sqm (not incl shoulder); Area = 186,538sqm (incl shoulders); Runway 04 - PCN = 86/R/C/W/T; TORA = 3046m; TODA = 3316m; LDA = 3049m. Taxiway Specification: Footot: Width 23m, Asphalt, B0/R/W/T (not incl shoulder); 67/R/D/W/T; Hotel: Width 23m, Concrete, 78/R/C/W/T; Juliet: Width 23m, Concrete, 78/R/C/W/T (data extracted from UK AIP AD 2 EGGS).

2.2 Landing aids for each RWY (e.g. CAT II): Runway 04 / 22: Full ILS system to CAT III comprising: Glidepath – Localiser Aerials; DME (distance measuring equipment); and Systems in place for the management of FOD.

2.3 Landings for each RWY (e.g. CAT III): Runway 04 / 22: Full CAT III comprising: Glidepath – Localiser Aerials; DME (distance measuring equipment); and Systems in place for the management of FOD.

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? This SMS has been running in its current form since June 2003 and is a living system that is continually reviewed/reviewed under internal SMS audit.

3.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Positive control through the Air Traffic Services provider (NATS) via radiotelephony procedures including the use of the Surface Movement Radar, RIMCAS (Runway Incursion Monitoring and Collision Avoidance Systems) and the Advanced Surface Movement Guidance Control System.

3.3 What is the primary method of monitoring vehicle and aircraft movements on the ground? Positive control through the Traffic Services provider (NATS) via radiotelephony procedures including the use of the Surface Movement Radar, RIMCAS (Runway Incursion Monitoring and Collision Avoidance Systems) and the Advanced Surface Movement Guidance Control System.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? We are undertaking a review of our lighting system to provide 24hrs runway guard bars, this analysis of both our own and other Airports’ data from runway incursions. We continue to review incursion risks through formal review processes and following any actual event investigations. Part of the European Action Plan for the prevention of runway incursions included the utilisation of enhancements to NATS procedures and the installation of RIMCAS which we have initiated at Stansted as best practice.

5.3 What safety devices are currently employed? (A-SMGCS: Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): The Surface Movement Detection System in use at STAL is a Nova 9004 system which has been upgraded with a Parkair RIMCAS surveillance system. During this year, 2010 we have had AMASS installed by NATS. This provides an improved control of all vehicles and aircraft on the manoeuvring areas.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Other than the standard signs and markings we do not have any specific innovative warnings or guards, another than additional signage in known hot spots.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? NATS (National Air Traffic Services) in conjunction with STAL have held a number of formal forums and drop-in briefings around runway incursion awareness. The target audience has been pilots, handling agents, controllers and the like. This process is set to continue as new learning comes from the statistical data and any local incident reviews. There is also a quarterly Local Runway Safety Team chaired by STAL and NATS representatives. Beyond these forums, the driver training packages now contain content around incursion awareness for staff whom operate on the manoeuvring areas. ‘Runway’ driving permits are only issued if the need is legitimate. All staff nominated to attend these specific driving courses are chosen after careful selection and sign-off process.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? STAL have engaged with all airport companies in the area of runway incursion preventative measures and reporting. We have developed an incident review process whereby we share the high level details of all airside incidents with the airport community. The key objective of this process is that we all work towards introducing key learning points to reduce the probability of re-occurrences. We have
6. BIRD AND WILDLIFE CONTROL
6.1 Do your staff attend recognised bird control training courses? BLADE 1 John Deere – 6800 Front mounted cylinder brush Snow Clearance; TRACTOR 2 John Deere – 6800 Front mounted cylinder brush Snow Clearance; TRACTOR 3 John Deere – 6800 Front mounted cylinder brush Snow Clearance; TRACTOR 4 John Deere – 6800 Front mounted cylinder brush Snow Clearance; TRACTOR 5 John Deere – 6810 Front mounted cylinder brush Snow Clearance; TRACTOR 6 John Deere – 6610 Front mounted cylinder brush Snow Clearance; TRACTOR 7 John Deere – 6610 Front mounted cylinder brush Snow Clearance; TRACTOR 8 John Deere – 6810 Front mounted cylinder brush Snow Clearance. Walkway Brush: TRACTOR 15 Antonio Carraro Front mounted cylinder brush Confined space snow clearance; TRAC- TOR 16 Antonio Carraro Front mounted cylinder brush Confined space snow clearance; TRACTOR 17 Antonio Carraro Front mounted cylinder brush Confined space snow clearance; TRACTOR 18 Antonio Carraro Front mounted cylinder brush Confined space snow clearance; TRACTOR 19 Antonio Carraro Front mounted cylinder brush Confined space snow clearance.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance: main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Subject to conducting a dynamic risk assessment on the day the normal operational priorities are as follows: a) Runway and associated entry and exit points and either end of runway b) An agreed taxiway route network to support the runway in use c) All taxiway and apron air traffic requirements d) Main aircraft parking stands e) Remaining taxiway routes not previously cleared f) Common use areas associated with Leased parking areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: In general and from the winter inventory list (Q10) the following equipment groups are employed for the associated areas as follows: a) Runway and taxiway areas - Prime Movers and Snow Blowers b) Taxiine areas – Prime Movers, Brushes and Blades c) Apron areas – Brushes, Blades and Walkway Brushes. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Depending on the climatic conditions and traffic levels we would normally expect to be able to achieve blacktop conditions in around 45 to 60 minutes.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: The pavement de-icers used at STAL are: a) Isomex 3 Liquid b) Konsin Liquid. The quantities used last season (2009/10) at an application rate of 20g/m² or 40g/m² was 750,000 litres Isomex 3 and 75,000 litres of Konsin. 12.2 Comment on storage capabilities of the chemicals which you use: The existing storage capabilities used for the storage of de-icing products at STAL are fit-for-purpose and meet with our business requirements in all regards. All bulk tanks are fully-bunded and the delivery systems for transferring media to the vehicle tanks are of good quality and reliability. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Solid de-icer not used.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No, however we shall be investigating technological solutions when we purchase new vehicles.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? We use gomacol on airside roads and passenger walkway routes.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: We use a ‘Vaisala’ system, this is linked directly to our Meteorological service provider’s network.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No plans.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. Provided that the data outputs are within their calibrated limits the data has always been of great benefit to the management of winter conditions, particularly when you have access to up-to-date weather forecasting data.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No, STAL provide aircraft anti-icing services for the infrastructure only.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? If so, please stating where the activities are conducted on the aircraft parking stands.
14.3 Is glycol recovered? If so, please state methods: At present there are no glycol recovery systems in use at STAL.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? We currently use the Mu Meter M16 CFME device as manufactured by Douglas-Tugmaster in the UK.
15.2 Have you any comments on the reliability of friction indexes? Although the concept of an internationally agreed friction index is a positive step forward, it is clear that there are significant differences between the dynamics of aircraft braking performance when compared to the use of any CFME equipment. For this reason it is understandable that such an index has not been ratified through ICAO and meeting the approval of IATA and other international bodies.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example): As our system is currently reviewed the airport’s snow fleet and are looking at the purchase of new equipment.

LUXEMBOURG

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Airport of Luxembourg
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 06/24: Length 4000m, TORA: 4000m, Width: 60m, Shoulders: N/A, Total apron/ramp area 240,000sqm.
2.2 Please list any other facilities in use at sta.
2.3 Are you about to change any of your operational procedures relating to the movement of aircraft on the flight line or airside operations? (e.g. CAT II): RWY 24 CAT III, RWY 06 CAT I.

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the introduction of risk management and if so which model(s)? has not been ratified through ICAO and meeting the approval of IATA and other international bodies.
3.2 Have you employed any special means to economise on chemical use? no, however we shall be investigating technological solutions when we purchase new vehicles.
3.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. Provided that the data outputs are within their calibrated limits the data has always been of great benefit to the management of winter conditions, particularly when you have access to up-to-date weather forecasting data.

4. FOREIGN OBJECT DAMAGE (FOD) Prevention
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: On the Job Training,
   b) Inspection by airline, airport, and airplane handling agency personnel: The fire brigade and the road department are checking runways and taxiways two times a day.
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): A report is filed for any object found, a copy of the report is sent to the Direction de l’Aviation Civile (NSA). All objects are kept for 14 days. FOD containers are present on aprons, but these are handled by Luxairport. (for your information the “administration de la navigabilité aérienne” is responsible for the manoeuvring area, not the aprons).
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Any person finding an object on the manoeuvring area has to deliver it to the fire brigade, ATC and/or Pilots are kept informed about FOD on the manoeuvring area.
   4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): SMS gets the report from our fire brigade as copy. No special systems or software solutions are employed.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? All vehicles on the manoeuvring area are radio-equipped and have to be in contact with the TWR.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? We are just in the tender phase for an A-SMGCS with primary Radar and Multilateration.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety Sys-...
6. Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? How are these issues in the airport despite of the fence, and after a hunt of about 3 hours they were shot. Traps are used instead of hangars especially for pigeons. They are released far away from the airport.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacity (liters); year of manufacture; make of manufacture; Foam tender/rapid intervention vehicle / THOMA chasis / 4X4 / 5000 liters of water, 500 liters of foam; PANTHER dated 1998 / MAN chassis / 8X8 / 12000 litres of water, 1600 litres of foam; SINGHA dated 1996 / MAN chassis / 8X8 / 12000 litres of water, 1600 litres of foam; Foam tender / MAN chassis / 4X4 / 3000 liters of water, 400 liters of foam.

7.2 Future developments – are there plans to purchase or dispose of any equipment? No. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No Fire Training Simulator at Luxembourg Airport.

We use a container for fire exercises only for our production on order? if so, please provide details of 6 sweeper blowers and 2 snow blowers.

8. WINTER ORGANISATION

8.1 How many airport-employed or sub-contracted winter services personnel are available? 14.

9. Icing and other relevant winter equipment stating: vehicle or other facility manufactures, and numbers which you use: the liquid is stored in a tank farm.

9. AIRCRAFT DE-ICING

9.1 Describe your airport's programme to control FOD in terms of:
   a) Training: In coordination with the Department of Environment, Airport Safety Manager has established safety standards mandatory, ensuring that everyone have training about this issue before starting to operate in the manoeuvring area.
   b) Inspection by airline, airport, and airline handling agency personnel: Airport duty manager does inspect the runways and aprons in accordance to Doc.9137

10. CRASH FIRE RESCUE

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating: purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 4 trucks equipped with snow-plough, snow-brush and blower unit, make Schörling / Bucher; 1 jet sweeper make Schmidt; 1 truck equipped with snow-ploughs only, for aprons make JCB; 2 trucks equipped with a spreader for solid de-icers make Mercedes Unimog / MAN; 1 truck for spraying liquid de-icers, make Küpper-Weisser.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: RWY 06/24,TWy A, B1-B4. Other RWY's except taxiway "India", Apron P1, Apron P5 (Air-Rescue), Apron P4 (Luxair maintenance), Apron P8 (Car-golux maintenance), Apron P2/P3, Others.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: They generally run in formation to provide the same surface quality as far as possible.

11.3 After de-icing, how quickly do you expect to achieve 'black top' on the runway? 45 to 55 minutes with a record of 38 minutes. This includes the measurement of the breaking action.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Cleanway SF3: 109 tons; Cleanway F1: 366,500 litres; Cleanway SF3 is solid and used to perfuse ice layers to enable liquids to penetrate; very effective; Cleanway F1 is acting immediately, the lower the temperature the more effective, holdover times of 2 days has been observed during freezing fog. These are reduced considerably with melting snow or freezing rain.

12.2 Comment on storage capabilities of the chemicals which you use: The chemicals are stored in a tank farm. The solid is stored in lots of superposed containers.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: No comment.

12.4 Have you experienced any corrosion problems with de-icers? Cleanway is very corrosive to steel. The trucks have to be cleaned thoroughly. It is also aggressive to all sealants and insulators.

12.5 Have you employed any special means to economise on chemical use? No.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or sand on operational areas? Yes, we use a "blow-away factor" on the markings on the aprons.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Up to now no ice warning systems had been installed.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? We plan to use pavement temperature and condition sensors either from company LUFFT or BOSCH/CHUNG in the next future.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: No experience.

14. AIRCRAFT DE-ICING

14.1 Do the airport directly operate aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Done by the handling agent.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing on aprons.

14.3 Is glycol recovered? If so, please state methods: No.

15. FRICITION TESTING

15.1 What model(s) of friction tester do you use? Saab friction tester / Skidometer.

15.2 Have you any comments on the reliability of friction indexes? Both friction tester run together one behind the other one and gave us identical values. The average values were obtained after the rubber from landing tyres was still steel blasted away from the runway surface. The test confirmed the reliability of our friction measures.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? In the speed of clearing the runway, the old snowblowers could not keep up the speed with the sweepers. The new snow blowers will be capable to have the same speed and runway will be earlier vacated. The same applies to the taxiways.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: New vehicles have been purchased in order to accelerate the snow removal. We might have an important improvement of snow removal after delivery of 6 Sweeper Blowers and 2 snow blowers.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: This depends of the winner of the tender.

16.4 Do you have any winter services equipment which you would like to sell? No.

MADEIRA
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Shotguns, Pyrotechnics, gas cannons and other bird strike call system.

6.4 Do you carry out a bird strike risk assessment? Yes. Every three months.

6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes. Every bird control activity is recorded and sent to the responsible bird strike manager (safety manager).

6.6 Does your airport has problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE


7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes. Fleet Renewal (Oshkosh P 19 e T 12).

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Madeira airport doesn’t have a Fire Training Simulator.

PART 2: MANAGER QUESTIONNAIRE

15. FRICITION TESTING

15.1 What model(s) of friction tester do you use? The friction test is done by the company “NORVIA” and for determining the coefficient of friction were performed continuously at an average speed of 65km/h, at night time, with dry weather, and using the equipment GRIPTESTER MARK II. This unit defines the limits in Grip Number (GN) whose results are represented in the diagram called FRICITION MAP.

15.2 Have you any comments on the reliability of friction indexes? In the overall results of the evaluation of friction coefficient January 2010, the analysis by sections does not point to the need for intervention. However, for the second segments of 100m of the tests performed at a speed of 65km/h, manifests the existence of several sections of 10m with values of coefficient of friction is low, though never more than 100m on extensions. Under these conditions, the Madeira Airport scheduled for the first half of 2011, the carrying out of removal of rubber so as not to compromise the coefficient of friction.

MALPENSA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Milan Malpensa Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identifiers of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total area, ramp area, other): Runway 17L-35R, 235.000 m²; Runway 17R-35L, 235.000 m²; Taxiway T1, 552.000 m²; Taxiway T2, 319.000 m²; TORA: 3.920m. 2.2 Lighting aids for each RWY (e.g. CAT II): RWY 35 R/L CAT III b, RWY 17 L CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:

a) Training: An awareness campaign for the staff working at the airport has been carried out using posters focusing on safety issues. Information are also available on the “Airport Circulation and Safety Manual” which is at all airport operators’ disposal.
b) Inspection by airline, airport, and airplane handling agency personnel: Monthly check-up with ENAC, airlines and Handlers, Periodic inscriptions by airport personnel.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Airport sweepers are used. Moreover, FOD bins have been placed on the apron.
d) Co-ordination of multiple agencies using airport (airlines, handling agency personnel): The personnel is responsible bird strike manager (safety manager).

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Surface movement radar SMR.

5.2 Are any design or engineering changes being undertaken/reviewed to eliminate perceived hazards? Repositioning of TXY signs have been made to eliminate any misunderstanding.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMSAS; or ASD-E-X; or Airport Surface Detection Equipment): Aircraft movement control is accompanied by a taxiway lighting/marking guidance system followed by apron lighting and marking guidance system with intermediate holding position markings/lights and stop bars.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Markings and lighting installed in accordance with ICAO annex 14. RWY guard lights are installed.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who operate vehicle movements on the airport? Training sessions and meetings are done in accordance with SMS Comités (apron, runway and emergency) to ensure the quality of airside communications.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, reporting procedures were set up jointly with other parties active in this process. Safety manager did several meetings in order to divulge all the procedures, guaranteed the confidentiality of reports, adopting a proactive approach and not punitive and collaborates with the Office for the Investigation of Aircraft Accidents and Incidents in identifying any gaps.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: A study was performed in 2001 by Madeira University and some of the recommendations were implemented. The team “Wildlife Consultants” continues to work to mitigate the presence of birds at the airport. Planned to carry out a thorough study (for 28 months) by an accredited institution and a specialist in the study of birds called SPEA - Portuguese Society for the Study of Birds.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes. All bird control staff is employed by the airport. They are familiar with the intervention area and airport procedures. They have 8 hour shifts during the day.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Shotguns, Pyrotechnics, gas cannons and other bird strike call system.
the ‘non-punitive’ principles such as ‘no-penalty’ reporting? There is a Runway Safety team in charge of events discussed with the airport operators involved. These procedures are managed by ATS.

6. BIRD AND WILDLIFE CONTROL
6.1 What is the primary method of monitoring vehicle and aircraft movements on the runway? Less than 30 minutes.

6.2 Are you required to have dedicated de-icing positions or do you de-ice in the parking area? Yes, we have dedicated de-icing positions.

6.3 Is glycol recovered? If so, please state methods: The glycol is recovered in underground metal containers.

15. FRICITION TESTING
15.1 What model(s) of friction tester do you use? Runway friction tester.

16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details: Airside Operations Dpt. is continuously looking at new vehicles and equipment.

16.5. Are you about to change any of your airport’s methods? No, but making use of e-database.

16.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Wild rabbits, hares, foxes and nutrias.

2. MOVENT AND MANEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. For example, total RWY (cat I), total RWY (cat II)...

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Minor changes, but increased safety cases.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? ATC visual / Apron Management.

5.2 Are any design or engineering changes...
being undertaken/required to eliminate perceived hazards? Yes in the process.
5.3 What safety defects are currently identified by (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Through ATC.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Paint/ signs/ red warning lights on taxiway. 
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airport vehicle operators & airside users undergo strict training procedures with testing both written and manual.
5.6 Have the reporting procedures for runway safety been changed or updated in any way? Not yet.
5.7 Specific training for staff to be made aware of any defects or equipment with other parties active in these processes? Further, do they safeguard the 'no-punitive' principles such as ‘no-penalty’ reporting? Yes through the Regulator – Committee for Runway Incursions.
6. BIRD AND WILDLIFE CONTROL
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airport grounds continuously, hourly, less than hourly? 24x7 on the aerodrome.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturers): Acoustic bird dispersal sound systems.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Recording for each inspection is obligatory.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassi (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Three Rosenbauer Panther 6x6 (FL 33,600), water capacity 12,000 lts and foam capacity 1,500 lts, dry powder 125 kgs, year 2000.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Not yet.
7.3 If your airport possesses a fire training simulator, is this available to other airports for training purposes? Available to other airports.
8. WINTER EQUIPMENT INVENTORY
8.1 Please list all snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): N/A
9. PROCEDES AND METHODS
9.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: N/A
9.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: N/A
9.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway: N/A
10. EXPERIENCE WITH CHEMICALS
10.1 State which pneumatic de-icers you use, along with the quantities used last season. Comment on the use of any corrosion problems with de-icers: N/A
10.2 Have you employed any special means to economise on chemical use? N/A
10.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: N/A
10.4 Have you experienced any corrosion problems with de-icers: N/A
10.5 Have you used any special means to economise on chemical use? N/A
10.6 Do you have any other comments on experience with chemicals: N/A
10.7 Do you use other chemicals or sand on operational areas: N/A
11. ICE WARNING SYSTEMS
11.1 State model and number of ice warning systems: N/A
11.2 Have you plans to purchase further ice warning systems and if so which model(s): N/A
11.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: N/A
12. AIRCRAFT DE-ICING
12.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state relevant supplier/manufacturers: N/A
12.2 Have you experienced any corrosion problems with de-icers: N/A
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: N/A
12.4 Have you experienced any corrosion problems with de-icers: N/A
12.5 Have you employed any special means to economise on chemical use? N/A
12.6 Do you have any other comments on experience with chemicals: N/A
12.7 Do you use other chemicals or sand on operational areas: N/A
13. FRICTION TESTING
13.1 What model(s) of friction tester do you use? N/A
13.2 Are you about to change any of your airport’s standardised friction testers? No. 
13.3 Comment on the use of any innovative warning systems: N/A
13.4 Do you plan to purchase new equipment or vehicles? If so, please provide details including manufacturer and number of units: N/A
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state relevant supplier/manufacturers: N/A
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area: N/A
14.3 Is your de-icing programme approved: If so, please state methods: N/A
15. SAFETY MANAGEMENT SYSTEMS
15.1 What model(s) of friction tester do you use? N/A
15.2 Have you any comments on the liability of friction indexes? N/A
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s standardised friction testers? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details including manufacturer and number of units: N/A
17. SAFETY MANAGEMENT SYSTEMS
17.1 The ICAO Manual on Certification of Airports specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS for the first time was introduced in November 01,

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Ohrid St. Paul The Apostle Airport.
2. MOVEMENT AND MAINTENANCE SURVEY DATA:

- Please list the identities of primary operational facilities and the surface areas. (For example: total Rwy length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Rwy 02/20, 2,550 m x 45 m; Rwy 11/29, 2,550m x 45m; Rwy Designation: 02/20; RWY Thresholds: RWY THR 02 (41° 10’ 02’’ 11’’); RWY THR 20 (41° 11’ 26’’ 02° 02’’ 44’’ 48’’ 85’’); RWY BRG GEO: 018°/198°; RWY Dimension: 2,550 x 45m; RWY Surface: ASPH; RWY Strength: PCN 76/F/B/X/T; RWY Shoulders: 2.5 m from both; RWY edges Strip: 2,730 m x 140m; Declared RWY distances: TORA 2,550m; TODA 2,550m; ASDA 2,550m; LDA 2,550m. Apron 02/20: 75m x 180 m x 45m; Apron 11/29: 75m x 180 m x 45m; Apron Dimension: 240 x 75m (the old part of the Apron); 180 x 115m (the new part of the Apron); Apron Surface: ASPH; Apron Strength: LCN 56, h = 7.7m. Parking positions: 13 PSN Nr. 1,2,3,4, MAX 35.5m wing span PSN Nr. 5, 6,7,8; MAX 34.88m wing span PSN Nr. G1,G2,G3,G4,G5: General aviation, MAX 12.2m; General aviation parking positions: 8 + 5/GA; Taxiways A, B, C, D Apron, Taxiways (TW): A, B, (from RWY to Apron) C, D (on the Apron); RWY Width: 23m; TW Surface: ASPH; RWY Strength: A, B PCN 76/F/B/X/T, C, D LCN 56, h = 77cm: TW Shoulders: 2.5m from both TW edges. Access road on the land side, 110 m x 5m Asphalt; Parking lots: 1,200sqm. 2.2 Landing aids for each RWY (e.g. CAT II): RWY 02/20, CAT I: Approach lighting; Precision Approach Lighting System CAT I - ALSF II; White centerline barrettes at 30m spacing, with crossbar at 300m from RWY THR 02. Centerline sequentially flashing capaci- tor discharge lights, from 390m to 0m from RWY THR 02. Length 390m. High intensity, adjustable in 5 stages. Approach slope indicator: PAPI 3.2° (4 units on the left side of RWY). RWY Edge Lights: 2,550 m, spacing 60m, white, last 600m yellow. High intensity, adjustable in 5 stages. RWY End Lights: Red; RWY THR Lights: Green; RWY Wing Bar Lights: Green; RWY Centerline Lights: 2,550 m, spacing 30m, white, 900 m - 300m from RWY end alternate red/ white, and last 300 m red. High intensity, adjustable in 5 stages. TWY Edge Lights: Blue Apron Edge Lights: Blue. Aerodrome Beacon Lights: Top of ATC Tower, 24 flashes per 1min, operating during night hours; Windssock/Landing Direction Indicator Lights: Vicinity of GP externally lit, 7.5m AGL Navigational aids: GP, LLZ, MM, DVOR, DME, VDF, NDB, SSR.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS for the first time was introduced in November 01,
6.6 Does your airport have problems with birds in the airfield? If yes, the airport operator has not made any recent changes to the SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:

- a) Training: Refreshment training and testing for airport personnel every third year.
- b) How are you monitoring, and airside handling agency personnel: Inspection only by airport personnel.

5. RUNWAY INCISION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground?

5.2 Are any design or engineering changes being undertaken to eliminate perceived hazards? No.

5.3 What safety devices are currently employed?

- (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Standard horizontal and vertical signalization (markings and signage) and lighting signalization and some local regulations.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Yes, runway guard lights, installed in 2004, to help prevent RWY incursions.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, aircraft operators, and other people who work at the airport? According to national low training programmes.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting?

- Yes.

5.7 What is the official advisor to the SMS? CAA of Macedonia (Civil Aviation Agency), yes.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: N/A.

6.2 Do you carry out a bird strike risk assessment? Yes.

6.3 Do your staff all follow all their bird control activities? Yes.

6.4 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please list your CFR vehicle inventory stating:

- vehicle type: (e.g. MAN); axes (4x4, 6x6); capacities (kg/litre and type); year of manufacture:
  - Heavy CFR vehicle TATRA 815; 6 x 6.
  - 8,000 litres water, 800 litres foam, 120 kg. CO2; 1993. Heavy CFR vehicle SAVAL ISONENBOURG MAC 09; 6 x 6, 9,000 litres water, 1,000 litres foam; 1993. Rapid CFR vehicle DODGE 450; 4 x 4.
  - 4; 1,000 litres water, 100 litres foam, 50 kg. BCF; 50 kg. CO2; 1982. Technical support CFR vehicle FIAT DUCATO 250 kg. 5 power; 1999.

7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes, two new heavy CFR vehicles and one new CFR vehicle for rapid intervention.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the current status of winter readiness? November 1 - March 31.

8.2 Average annual days of snow: 20 days.

8.3 Average snow depth: 5cm.

8.4 Maximum snow in 24 hours: 28cm.

8.5 Annual number of days of de-icing activities: 75 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 15.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example: compact jet sweeper, Schmitt, CIS 720, 4 units):

- Compact snow cleaner & de-ice, MERCEDES ATEGO, with snow plough; MF 9.3 (5.6m), urea and glycol spreader, 1 unit; Snow cleaner KAMAZ, with snow plough Schmidt (4.8m), 2 units; Snow plough, NSA, 1 unit; Urea spreader, tractor towed, 1 unit; Snow blower with sweeper, tractor towed, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: 1. Runway; 2. Taxiway A or B; 3. ILS and PAPI areas; 4. Other taxiways; 5. Apron (few parking positions); 6. Access road to the apron (air side); 7. Access road to the terminal building (land side).

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Snow clearance is performed with snow cleaners (2 or 3), with ploughs, from the centre line of RWY to the edges. After that, if it’s possible, the snow is blown off the RWY sides with snow blower. If it’s necessary, anti/de-icing of movement area is performed at the same time. The same way is performed for the other airport operational areas too.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? About 1.5 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: The main runway deicers are urea and acetate-liquid.

Last season were used about 3 tonnes of urea and about 1,600 litres acetate-liquid. This season, urea and acetate-liquid (Clariant, Safeway) will be used too. Urea itself is ineffective below -7°C, therefore we’re using an acetate-liquid also, for de-icing the pavements at lower temperatures. The effectiveness of mixed solid-liquid medium is much better.

12.2 Comment on storage capabilities of the chemicals which you use: Few of the main advantages of using urea are: the simple way of storage (in bags), easy handling and spreading and lower cost price.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Our experience with using urea is good, so far. About experience for mixing ratios with liquids, we could tell that effectiveness is much better.

12.4 Have you experienced any corrosion problems with de-icers? So far, we don’t have that kind of problems.

12.5 Have you employed any special means to economise on chemical use? No.

12.6 Do you have any comments on experience with chemicals? No, except unregulated environment questions, so far, about using urea.

12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: None.

13.2 Have you any other comments on experience with chemicals? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility operators. No.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-ice on the parking position on the apron.

14.3 Have you any other comments on experience with equipment? We offer de-icing with warm water or other type of equipment (brushes, ropes, etc.) and anti/de-icing with glycol Type II Fluid / 50%, 75% & 100% / Clariant, Safeway MP II 1951 air.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SKIDOMETER VAMMAS BV-11, 1 unit.

15.2 Have you any comments on the reliability of friction indexes? We believe that measured and calculated friction indexes are very reliable. Regular inspections, of the vehicle and the equipment, shows that the skidometer is in excellent condition.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? No.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment which you would like to sell? No.
OSLO

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Oslo Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Runway 01L/19R length 3600m, TORA 3600m, Width 45m + shoulders 7.5m, Asphalt 216.000sqm, taxiways asphalt 266.000sqm. Runway 01R/19L length 2950m, TORA 2950m, Width 24m + shoulders 7.5m, asphalt 174.000sqm, taxiways asphalt 206,800sqm. Apron 478,000sqm , other 256,000sqm.

2.2 Landing aids for each RWY (e.g. CAT II): RWY 01L: CAT I; RWY 19R: CAT IIIB; RWY 01R: CAT IIIB; RWY 19L: CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 In accordance with the specification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? OSL have practised a Safety Management System for the Aerodrome since the opening Oct. 8, 1998, as an integrated part of the company operations manual and Quality System. The Safety Management System has continuously been developed and improved. Last year there has been developed further Risk Assessment procedures and plans for the future.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: This is a part of the training program for airport personnel on elementary and advance level.
   b) Inspection by airline, airport, and airline handling agency personnel: FOD inspection is done by airfield services personnel. It is also stressed that FOD is a responsibility for every person at the airport, like handling agents that operate on aircraft stands.
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): We have a sweeping magnetic bar and there is FOD bins at every aircraft stand.
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): An airside forum with representative from airport and handling agencies has FOD as a part of the regular agenda.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): None at the moment.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A ground radar system is used by local ATC for monitoring the vehicle and aircraft movements. MLAT (Multilateration).

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? None at the moment.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS, or RTCA, or the Model X Airport Surface Detection Equipment): We have an improved surface surveillance system, using Mode-S Multilateration.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: We have painted signs like RWY AHEAD in combination with street lights and warning lights. 

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, aircraft vehicle operators, and other people who work at the airport? All personnel that have access to the airside must have an airside safety course. Personnel that are allowed to enter the manoeuvring area must have an additional radio communication course.

5.6 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The problem with birds is relatively small at OSL. No large open Water bodies within ore close to the airport. We have a long grass policy along the runway and taxiways.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? No.

6.2 Are your bird control procedures for run- way safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘no-punitive’ principles such as ‘no-penalty’ reporting? Yes.

6.3 Specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): We use shot guns, pyrotechnics and traps for catching birds.

6.4 Do you carry out a bird strike risk assessment? We carry out a bird strike assessment if/when we observe a change of the bird situation at the airport. Our procedures regarding bird strike/wildlife management are/may be audited as part of a CAA audit of airfield services or by an airline audit.

6.5 Do your staff leg all their bird control procedures (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No. We have fences around the air- port that are continuously inspected by Airport Patrol.

7. CRASH FIRE RESCUE

7.1 Have the emergency Crash Fire Rescue vehicle inventory stating: vehicle type; (e.g. MAN); axles (4x4, 4x6); capacities (kg/litre and type); year of manufacture: The CFR vehicle inventory at OSL is: 4 Panther Rosenbauer with MAN chassis 8 x 8, capacity 13000 l/10000 l foam AAF, 1998; 3 Buffalo Rosenbauer with MAN chassis 6 x 6, capacity 8300 l/5500 l foam AAF, 1991/92; 1 Panther FLF Rosenbauer 6x6, capacity 125000/15000 l foam AAF, 2009; 1 Fire and Rescue vehicle with Scania chassis 4 x 2, 3600/2501 l foam AAF, 2003; 1 Bronto Skylift (37m) Volvochassis 6 x 4, 1998.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We have a Fire training Simulator produced by IFTE that is also used by other airports in Norway.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER SITUATION

8.1 What is the designated period of winter readiness? 15 October until 15 April.

8.2 Average annual days of snow: Between 60 – 70 days of snow.

8.3 Average snow depth: About 80cm.

8.4 Maximum snow in 24 hours: About 35cm.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 27 employees per shift that do the snow cleaning of the runways and taxiways. In addition up to 20 persons from a sub-contracted snow clearing company.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow cleaning, de-icing and other relevant winter equipment stat- ing purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Compact runway sweepers: Øversesan RSC 200, 6 units, Runway sweepers towed behind trucks: Øversesan R 400, 14 units. Snow blowers, self propelled: Øversesan TV 2000, 2 units; Øversesan TV 1260, 1 unit; Kadiol CF6DE1, 1 unit; Kadiol CF 8 DE, 1 unit; Schmidt TS 5, 1 unit. Snow blowers mounted on wheel loaders: Øversesan UTV 400, 2 units, Wheel loaders with snowplough: Caterpillar IT 28, 1 unit; Caterpillar 966, 4 units; Komatsu WA 470, 2 units. Runway de-icing liquid spreaders: Nido – Schmidt ASP, 2 units; Kupper-Weisser 28 m, 1 unit. Runway de-icing granulates/liquid spreaders: Kupper Weisser 24 m, 2 units. Sand spreaders: Nido, 4 units; Fallkoping, 1 unit. Glycol Spreaders: Frit- mok, 3 units; Bucher Schärer 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearing of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Group 1 cleans the first runway between the edge lights while group 2 cleans the taxiways connected to the runway before the two groups joins together for cleaning the apron/central area and then splits again for cleaning the second runway/taxiways. Which runway to be cleaned first depends on traffic and weather conditions. Group 3 cleans the GA area. A contractor cleans the Apron/airport stands.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Group 1, runways: 8 jumbo-sized sweepers, 1 big snow blower, 1 edge light cleaning machine, 2 sprayers or sand spreaders. Group 2, rapid exits and taxiways: 5 jumbo-sized sweepers, 1 snow blower, 1 sprayer or sand spreader, 2 wheel-loaders. Group 3 are equipped with 2 compact sweepers, 1 wheel loader and 1 snow blower. Apron clearance is made by contractor with his own equipment, wheel-loaders, snow blower, and ploughs.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? We clean a runway for snow and prepare to black top within max. 15 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on
effectiveness of chemicals at low temperatures and achieved holdover times etc: We use afoirm l 50 and afoirm l 40.000 l / 45 500 kg last season. We have good results on effectiveness of the chemical within the temperature ranges we have experienced so far since the opening of the airport. However, chemicals keep the runway wet for a long time in low temperature. This may cause problems, because snow then will stick to the surface and may clog the de-icer. We therefore need to get a black top again. We avoid using chemicals if it starts snowing on a cold and dry runway.

12.2 Comment on storage capabilities of the chemicals which you use: We have 4 * 40 m³ tank storage capacity at the airport. This lasts about a quarter of a normal season, depending on weather conditions. We also have a good support from the producer of the chemicals.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We have experienced good results with a mix of afoirm liquid and solid de-icers. It is important that the liquid and solid are mixed before spreading.

12.4 Have you experienced any corrosion problems with de-icers? We have experienced some corrosion on electrical wires and components on winter services equipment, especially galvanized metal.

12.5 Have you employed any special means to economise on chemical use? We use a preventive tactic together with a strict system for registration of use of chemicals related to a daily and monthly "chemical budget".

12.6 Do you have any other comments on experience with chemicals? We have reason to believe that runway de-icing chemicals have a negative effect on bitumen, which may result in shortened lifetime for the asphalt pavement.

12.7 Do you use other chemicals or sand on operational areas? In addition to chemicals we use sand on runways and taxiways.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: We have a Vaisala system with 3 sensors each runway in addition with weather radar that covers the southern part of Norway.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No plans for further ice warning systems for the moment.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Together with ordinary met services, ice warning systems are an important tool to prevent ice.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: The airport does not provide aircraft anti-de-icing operations. It is taken care of by handling operators.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have dedicated de-icing platforms at each RWM.

14.3 Is glycol recovered? If so, please state methods: Deicingplatforms and taxiways exits have dedicated storm water collection to provide the collection of the spent de-icing fluids. In this way about 75% of the glycol is recovered. About 60 – 75 % of recovered glycol is used as a substitute for ethanol in municipal sewage treatment plants.

15. FRICTION TESTING

15.1 Who is the operator of the friction tester do you use? 3 units SARSYS SAAB 9-5 friction tester.

15.2 Have you any comments on the reliability of friction indexes? There is a concern of the overall reliability of friction indexes due to the many parameters that influences the result and that reproducing the result within a certain limit even given the same conditions is difficult. Due to this, we don’t report measured friction values, but a parameter from 1 to 5 to pilots.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? We will not have any major changes in our methods for winter services for the coming season. 16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: The airport has a project that will expand the terminal, increase the numbers of aircraft stands and the size of the maneuvering area. This will also demand more of all types of winter equipment.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment which you would like to sell? 1 ASFT SAAB 9-5 friction tester.

OSTEND-BRUGES

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME:

International Airport Ostend-Bruges

2. MOVEMENT AND MANEUVURING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total Rwy length (or lengths), Take Off Run Available [TORA], Rwy width, shoulder widths, total apron area, ramp area, other): RY08/26: 3200 m x 45m = 144,000sqm (+ shoulders 15m = 60m x 3200m) = 192,000sqm; RY 02: 2100m x 20m = 42,000sqm; Apron: 525m x 11 m = 57,750sqm; Apron 2: 620 x 225m = 139,500sqm; Apron 3: (40+70+2x 75 + 10) = 117,475sqm. 2.2 Landings for aircraft for each Rwy (e.g. CAT II): RWY08: ILS CAT I; RWY06: ILS CAT I. 3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? 1. Installation of stop bars 2. Installation of runway guard lights 3. Adaptation of low visibility procedure 4. Changes to apron markings (ACFT stands General Aviation). 4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of: a) Training: Awareness programme for airport personnel. b) Inspection by airline, airport, and airplane handling agency personnel: Inspection by airport inspector, marshalling unit, bird control unit and handling agencies. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Use of sweeping and installation of FOD containers. d) Co-ordination of works in immediate vicinity of airport (airlines, handling agents etc): Co-ordination is done through two-monthly meetings and is directed by operations manager.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): EBOS is using in-house developed access based software to collect and analyse FOD statistics.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Tower controls and vehicle movements on TWA and RWY strip + two-way radio contact on ground frequency with TWR. 5.2 Are there any design or engineering changes being undertaken/required to eliminate perceived hazards? Installation of RWY guard lights and stop bars.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Nil.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other safety technology: Since the airport has a very simple layout (1 RWY, 1 TWA) and traffic is not dense, procedures (e.g. 1 movement at a time during LVP) and use of simple protection aids, such as signs, markings, use of standard phraseology and driver training are sufficient to prevent runway incursions. To improve safety it is proposed that the installation of stop bars and runway guard lights will improve safety. EBOS is working on introducing English as standard communication language. 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Driver training, ATC- refresher course, introduction course SMS, fire department refresher course.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? No, blame culture is a part of the airport’s safety declaration. Procedures are implemented to report any safety-related issue to the safety manager.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. 6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously from 7 AM till 10 PM. 6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): recorded distress calls ( Scarecrow Premier 1500 and Scarecrow Patrol 2); pyrotechnics (12 gauge birdscare cartridges); shotguns (riot gun with 12 gauge ammunitions); handheld laser-beam (manufacturer Lord Ingénierie); moving scarecrow, pyrotechnics. 6.4 Do you carry out a bird strike risk assessment? Yearly evaluation by means of the BCU report (estimated occurrences by kind of birds, places, etc).

6.5 Do your staff log all their bird control activities? Yes.

6.5.1 Have the reporting procedures for bird strike events been attended by all relevant stakeholders? Yes.

6.5.2 Are your staff trained to recognise bird control training courses? Yes, training courses have been attended by all relevant staff. 6.6 Are your bird control staff working on the airfield regularly during LVP? Yes.

6.6.1 Are your staff trained to recognise bird control training courses? Yes, training courses have been attended by all relevant staff.
(to manage success in dealing with the problem, and to use in defence in case of lawsuits); Yes, all bird control activities are being logged. RTF conversation with TWR on ground frequency is recorded; Logbook on number of kilometers driven by BCU vehicle; Logbook on number of used pyrotech-nics, birdscare cartridges and ammunition.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? For example: to protect the local rabbit habitats; under control due to regular hunting actions.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufactu-ure: 3 CRASH TENDERS (2 SIDES, 1 MERCEDES/ SOMATI, 6x6); 2 x 9.500 litres of water and 1 x 12.000 litres of water; 1 x 1.500 litres per product type B; 3 x 4.500 litres of discharge rate; 2 x 250 kg chemical powders; 1 twin agent with 750kg chemical powder + 45 litres foam + 750 litres of water.

7.2 Future developments – are there plans to purchase or dispose of any equipment? A new crash tender Rosenbauer Panther has been ordered.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of win-
ter readiness? 1 November till 31 March.

8.2 Average annual days of snow: 15 days.

8.3 Average snow depth: 3cm.

8.4 Maximum snow in 24 hours: 10cm.

8.5 Annual number of days of de-
icing activities: 30 days.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 7.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-
icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJ5 720, 4 units: 1 tractor with snowplough (working width: 5.5m); 1 "UNIMOG" with snowplough (working width: 3.65m); 2 snowplowers (sweeping width: 3.3m); 1 sweeper-blower (sweeping width: 3.6 m) with snowplough (working width: 5m); 1 sprayer of de-icing liquids (capacity: 200 l, spraying width: 18m); 1 spreader (capacity: 4 m², spreading width: 10m) – liquid and granules; 1 sprayer of de-icing liquid (capacity: 4.800 l, spraying width: 28m).

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, stands etc.). Stating: 1 rWy safety team take place. Meeting with local authorities (CAA) demands introduc-tion of Ground surveillance system.

15.1 What model(s) of friction tester do you use? SAAB 9000 – asft friction tester.

15.2 Are there measures to ensure de-icing positions or do you de-ice on the parking area? In the parking area.

15.3 Is glycol recovered? If so, please state methods: No.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your air-

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes: PRM-lift.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Yes: crash tender Rosenbauer Panther.

16.4 Do you have any winter services equip-
ment which you would like to sell? No.

SMs following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: Training is defined by airport guidelines, personnel are trained according these guidelines.
   b) Inspection by airline, airport, and airplane handling agency personnel; Inspections are done 4x /day by airport operation dispatcher.
   c) Maintenance (use of sweeping, magneti-cats, rumble strips, FOD containers etc): 4 x Jetbroom - sweepers available.
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coopera-
tion with bird-protection service provider.

4.2 Are there any special means to control any winter services equipment or software solutions you employ for FOD control? No SW in use.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of moni-
toring vehicle and aircraft movements on the ground? ATOC, Ground FREQ.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? For implementation of ICAO CAT III/a operation Local authorities (CAA) demands introduc-
tion of Ground surveillance system.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety Sys-
tem - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment). Special procedures under LUV are applied. (1 vehicle or one ACFT on movement area at the same time).

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, light-
ing and other lower-cost technologies: RWY guard markings on every TWT; RWY guard lights on every TWY; Stop bars and elevated stop bars on TWYs; Crossing service roads equipped with elevated stop bars, markings and stop signs.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechan-ics, airport vehicle operators, and other people who work at the airport? Airport staff is trained every two years. Rules are defined in airport guideline. Every third month RWY safety team take place. With meeting with local aircraft operators, airport and ATC representatives.

5.6 Have the reporting procedures for runway par-ties incidents been set up jointly with other par-ties active in these processes? Further, do they safeguard the ‘no-punitive’ principles such as ‘no-penalty’ reporting? Safety boxes are installed at airport. Non-punitive approaches are adopted.

6. BIRD AND WILDLIFE CONTROL
6.1 Detail your habitat management policy and how it reduces the attraction of the airfield to birds: Bird and wildlife control is provided by external provider. Control is done continuously, specialist in the vicinity of RWY.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? From 5:00 till 21:00 continuously, then on request.

6.3 Do you carry out a bird strike risk as-sessment? When increased concentration
of birds occurs notification is received. 6.5 Do your staff tag all their bird control activities? (to manage this activity with the problem, and to use in defence in case of lawsuits): Provider produces detailed statistic review. On its website publishes statistics, alerts and general information on actual bird sighting at major airports in the country. 6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being managed to have 2-3 years ago, with accomplishment of the new security fence, problems with wild life almost ceased.

7. CRASH FIRE RESCUE 7.1 Please detail your CFR vehicle inventory stating: ve; chassi (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture: 2 x Rosenbauer TATRA 6x6, 125000 l water, 250kg powder, 2008; 1 x MB ACTROS, 6x4, container transporter, 2009; 1 x Mercedes ACTROS BUFFALO 3 and 4, 6x6, 60001 water, 8001 foam, 250kg powder, 2008; 1 x MB ACTROS, 6x4, container transporter, 2009; 1 x Bronto Skylift FI32 RLX, retractable platform, 2009; 1 x MB SPRINTER – chemical protection, 2009; 1 x MB SPRINTER – transport vehicle, 2009; 1x Nissan PATROL – rescue car 2006; 1 x Peugeot PARTNER Tepee, technical support, 2009; 1 x Ambulance FORD, 1999; 1 x Mitsubishi L20; 1 x Recovery container with inflatable bags. 7.2 Future developments – are there plans to purchase or dispose of any equipment? No. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No simulator.

PMT 2: WINTER SERVICES QUESTIONNAIRE 8. RECENT WINTER CONDITIONS 8.1 What is the designated period of winter readiness? 1 October – 30 April. 8.2 Average annual days of snow: 120. 8.3 Average snow depth: 10cm. 8.4 Maximum snow in 24 hours: 25cm. 8.5 Annual number of days of de-icing activities: 45. 9. WINTER ORGANISATION 9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 7 persons per shift (12h). 10. WINTER EQUIPMENT INVENTORY 10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 1 x compact plough – jet sweeper , MB Actros, Schmidt 560; 3 x plough truck TATRA 815; 1 x jet broom Schorling P15; 1 x plough truck LAZ 1111; 1 x plough truck TATRA; 1 x plough, snow tank, SPL55; 1 x MB UNIMOG, plough and sander-gritter; 1 x snow cutter Rolla R1000; 1 x snow cutter ZETOR; 3 x plough tractors ZETOR.

11. PROCEDURES AND METHODS 11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, apron) indicating identity of each facility: 1. RWY 04/22. 2. TWY s. 3. APN CENTRAL. 4. APN SOUTH. NORTH. 5. Other surfaces. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Four plough trucks with jet brooms enters the RWY via APN CENTRAL and TWY C. The snow banks are pulled sides of RWY and then snow cutter moves them of of RWY.

The same procedure is applied on TWY’s and APN.

11.3 After moderate snow, how quickly do you expect to achieve a clearable state of the runway? 5 minutes takes clearing of RWY at full length and width.

12. EXPERIENCE WITH CHEMICALS 12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: 1 x MB UNIMOG, plough and sander-gritter, 1x tractor ZETOR sander gritter; Nitric acid amide/(carbamid) is used for chemical treatment of pavements. Effective use at temperature range 0 to – 8°C.

12.2 Comment on storage capabilities of the chemicals which you use: Storage in local hangar. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow away factor” etc: Carbamide mixed de-icers, for example mixing ratios with liquids, “blow away factor”, is applied on RWY and then snow cutter takes clearing of RWY and then snow cutter moves them of of RWY.

12.4 Have you experienced any corrosion problems with de-icers? No experience.

12.5 Have you employed any special means to economise on chemical use? Chemical treatment responds to actual weather forecast to minimise excessive use.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS 13.1 State model and number of ice warning systems: No ice warning system at the moment. 13.2 Have you any plans to purchase new equipment or new warning systems and if so which model(s)? Do not intent purchase of ice warning system.

14. AIRCRAFT DE-ICING 14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufacturer, and number of units: 2x MD GLOBAL, 8000 DEAP.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes, de-icing is provided at APN CENTRAL stand No.1 and APN SOUTH at dedicated stand.

14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING 15.1 What model(s) of friction tester do you use? ADR-FM (SFL).

15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS 16.1 Are you about to change any of your airport’s methods? Friction meters, jet sweepers, snow cutters.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: We plan to purchase new equipment stated above in next 2-3 years. Selection procedure is about to start. 16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment which you would like to sell? No.

PAPHOS

PMT 1: GENERAL AIRSIDE SAFETY 1. AIRPORT NAME: Paphos International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA 2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 29: 11, 2699m Length; RWY 29/11: 45m width; TORA: 2699m for both RWYS; Paved shoulders: 7.5m on each side; Total Apron Area ~ 180,000sqm.

2.2 Landing aids for each RWY (e.g. CAT II): RWY 29 CAT I; RWY 11 Visual approach.

3. SAFETY MANAGEMENT SYSTEMS 3.1 The ICAO Manual on Certification of Aerodromes (“ICAO Manual”) states that: “The Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Following appraisals / reappraisals by Hermes Health and Safety Officers but also by auditors from Insurance companies, various safety procedures have been reviewed to take into account the feedbacks on risks and/or hazards identified.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION 4.1 Describe your airport’s programme to control FOD in terms of:

a) Training: Basic Airside Safety (BAS) training to all Airport Staff including FOD awareness. - FOD awareness displays at Staff Rest Rooms / Canteen etc.

b) Inspection by airline, airport, and airline handling agency personnel: Daily inspections carried out by Airport Operations, Technical Department personnel & subcontractors, Performance measurement of contractors FOD clearance activities - Check encompass inspection for cracks, rubber deposits, oil contamination or possible water presence, paint discoloration, FOD, shrubbery and bird hazard. - legal obligation for Ramp Handling companies to carry out their own inspection prior inspection after and departure of flight.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Use of Sweeping bar and vehicle. FOD reporting Procedures have been reviewed to take into account the feedbacks on risks and/or hazards identified.

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Regular FOD walk involving airlines, handling agents and state entities staff working at airport.

5. RUNWAY INCURSION PREVENTION 5.1 What is the primary method of monitoring vehicles and aircraft movement on the ground?

CCTV cameras from Operations Centre, Airport Operations staff monitoring Ramp activity.

5.2 Are any design or engineering changes being undertaken to eliminate perceived hazards? New taxiway in planning to connect apron with RWY 29 so that taxiing aircraft do not use or cross the runway.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Runway “hold point” paint markings at each taxiway: Warning and No entry signs on APFF and ATC vehicle access road + barriers installed on each end of the road.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechan-
ics, airport vehicle operators, and other people who work at the airport? An Airside Vehicle Programme has been elaborated and all Airport Users driving airside must pass a written test to acquire the Airside Driving Licence. Staff, driving on the manoeuvring area to carry out their duties, have to attend a Radio communications skills training provided by ATC trainer + practical test. Airside Traffic Directives are issued to all Airport Users when changes or new procedures are to be applied. Changes or new procedures are to be applied when it has been necessary to make any significant changes yet. According to the national law a special protective zone is established around the airport. It is forbidden to build an object or to perform activities which would be attractive for birds. Accordingly the same law, the airport operator and CAA is a juristic person at constructions control. The CAA has power to enjoin such constructions or activities.

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SMGCS was implemented at the Movement area and CCTV at the Apron. Prague Ruzyne Airport has a common reporting system for runway safety incidents. The system (web reporting) is able to safeguard the identity of reporting persons. Prague Ruzyne Airport is eligible for A-SMGCS; Airport Movement Area Safety System (AMSAS); or ASD-EX, the Model X Airport Surface Detection Equipment; A-SMGCS level 2.

5.2 Are any design or engineering changes necessary to reduce the risk of foreign object damage? a) Training: General FOD training is the part of periodical safety training. There is a special training providing by ATC training centre for airside staff when they get a special licence valid for three years. b) Inspection by airline, airport, and airplane handling agency personnel: Airport: FOD check of whole area, ramp area, other); Rwy 06/24 – length 3,715m, Width 45m, Shoulder 2 x 7.5m, TORA 3,715m; Rwy 13/31 – Length 3,250m, Width 45m, Shoulder 2 x 7.5m, TORA 3,250m. Total Apron Area 253,000sqm; Total Pavement Area 1,717,800sqm. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): There are two vacuum cleaners dedicated for sweeping of the Apron. There are FOD containers at all stands. d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Co-ordination of FOD prevention is a business of Airport Safety white Team. The representative of all handling, Cargo and Refuelling companies providing services at the airport as well as the representatives of the main airlines and AOC are the members of this team. e) General: Are there any special systems or software solutions you employ for FOD control? (Please specify) According to the Airport rules, the Handling agent is responsible for FOD check at the stand before the arrival of aircraft and after its departure. a) FOD Prevention: the Handling agent is responsible for FOD check at the stand before the arrival of aircraft and after its departure. b) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): There are two vacuum cleaners dedicated for sweeping of the Apron. FOD containers at all stands. c) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Co-ordination of FOD prevention is a business of Airport Safety white Team. The representative of all handling, Cargo and Refuelling companies providing services at the airport as well as the representatives of the main airlines and AOC are the members of this team. f) What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? The drivers permitted to drive a car on the movement area have to have a special training providing by ATC training centre and they have to pass an examination. After that, they get a special licence valid for three years.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the identity of reporting persons? Yes, there is a common reporting system for runway safety incidents. The system (web reporting) is able to safeguard the identity of reporting persons.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer and any cost associated with it). The main method of bird control is falconry. The airport has employed a group of falconers who protect the movement area with specially trained falcons, hawks and eagles. The method is based not only on the fact that the falconers hunt the wild birds but also on the fact that the birds feel threatened and choose not to remain in the airport area.

6.4 Do you have any comments on bird strike risk assessment? No.

6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

10.1 Please list the identities of primary operators (e.g. snow clearers, de-icers, apron services, taxiway, aprons, etc.) stating identity of each facility: 

- RWY in use + RWY exits + TWY parallel to RWY in use, Apron North (number of stands covering the real traffic) + access to Fire Fighting Stations, access to meteorological and radio navigation aids relating to RWY in use. 2. Access to aircraft park-

10.2 What model(s) of friction tester do you have? SASYS Friction Tester, 2 units.

15.2 Have you any comments on the reliability of friction index measurements? No.

15.3 After moderate snow, how quickly do you expect to have an airport suitable for operation? No. We have an action plan for replacement of existing units and increasing capacity and ca-

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes. We have an action plan for replacement of existing units and increasing capacity and cap-

16.4 Do you have any winter services equipment you would like to sell? No.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
a) Training: We have internal procedures for ensuring the control of FOD and yearly safety reinforcement trainings are being conducted along with licensees extension trainings.
b) Inspection by airline, airport, and airplane handling agency personnel: Airport employees are conducting inspections of FOD on operating areas several times a day. Airport procedures for controlling FOD are presented to the airlines and handling agencies during audits.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): We use FOD containers and sweeping methods.
d) Co-operation: We do not have joint procedures using FOD (airlines, handling agents etc). Coordination with ATC, there is no other multiple agencies.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Our employees use a special software (“Niko”-“galiot”) in order to log all daily inspections of operating areas in the terms of FOD’s control.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Monitoring is ensured through DCS system, video surveillance (video records) and personnel observations.
5.2 Are any design or engineering changes being undertaken in order to eliminate perceived hazards? No, there are not.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment); Above mentioned devices currently are not employed.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Use of these technologies can be very useful and successful, especially on airports with one runway and a few number of taxiways.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport operators, and other people who work at the airport? Airport staff are participating safety reinforcement trainings.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as “no-penalty” reporting? The reporting procedures for safety incidents has already been set up jointly with other parties active in these processes and “no-penalty” principles are ensured.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The attraction of birds to the airfield is reduced by careful planning of herb cutter on the airfield and on surrounding areas.
6.2 Do your staff attend recognised bird control training courses? Yes, they did.
6.3 Who specialist equipment do you employ for bird control? (Please state relevant supplier’s name, model, type of dry or wet equipment): Our procedures use pyrotechnics, alarm shotguns and dogs.
6.4 Do you carry out a bird strike risk assessment? No, not yet.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): They log all their activities by using a control programme software which indicates every single bird control prevention activity (for example: time and place of using alarm shotguns and dogs).
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, we do not.

7. CRASH FIRE RESCUE
7.2 Future developments – are there plans to purchase or dispose of any equipment? At this moment, there are no plans.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Construction of a Fire Training Simulator is in process.

PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? OINOV - 15APR.
8.2 Average annual days of snow: 1-2.
8.3 Average snow depth: 5-20cm.
8.4 Maximum snow in 24 hours: Approx. 30cm.
8.5 Annual number of days of de-icing activities: 4-6 on A319, 20-30 on Dashq400.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Pula Airport does not have a special winter service.
9.2 In the case of severe meteorological conditions, winter service is formed from maintenance personnel and technical service personnel. The number of available personnel per shift would be min. 12-15.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment: The effectiveness of chemicals at low temperatures with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: We use “UREA” pavement de-icer and last 2 or 3 seasons we did not have to use it at all. We do not have any plans to purchase an ice warning system. “blow-away factor” etc: “UREA” is a solid de-icer.
10.2 Have you experienced any corrosion problems with de-icers? No, until now we did not.
10.3 What specialist equipment do you employ to control access to cleared areas in case of heavy snow and achieved holdover times etc: We use “urea” de-icers. We have achieved 3 or 4 years. It happened. The “black top” was achieved during the night.
10.4 What experience do you have with chemicals? No, we did not.
10.5 Do you log all their bird control activities through our bird control programme software which indicates every single bird control prevention activity (for example: time and place of using alarm shotguns and dogs)? Yes.
10.6 Do your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, we do not.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. Runway. 2.Taxiways C, F and then A and others. 3. Apron. 4. State the vehicles, formations and general method of runway, taxiway and apron clearance: The clearing starts after 15-20mm of wet snow or 50mm of dry snow. It is performed through our and sub-contracted sweepers. After sweeping, the de-icers spreader, sprinkles the de-icer chemicals.
11.2 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? It is hard to estimate because there was no often moderate snow on Pula Airport in the last 3 or 4 years. It happened. The “black top” was achieved during the night.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: We use “UREA” pavement de-icer and last 2 or 3 seasons we did not have to use it at all. We do not have any plans to purchase an ice warning system. “blow-away factor” etc: “UREA” is a solid de-icer.
12.2 Have you experienced any corrosion problems with de-icers? No, until now we did not.
12.3 Have you employed any special means to economise on chemical use? No, we did not.
12.4 Do you have any other comments on your experience with chemicals or sand? No.
12.5 Do you use other chemicals or sand on operational areas? No, we do not.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: We do not have ice warning system because meteorological conditions at Pula Airport are very good. At this moment, monitoring is performed by personnel observations.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? At this moment, we do not have plans to purchase an ice warning system due to mentioned meteorological conditions.
13.3 Comment on your experiences of the benefits/drawbacks of ice warning systems...

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: Anti/de-icing truck, Man-Sroder, 18.232 F-Automatic, 1 unit 14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We are performing de-icing on the parking area.
14.3 Is glycol recovered? If so, please state methods: No, it is not.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? Saab, SFH Friction tester.
15.2 Have you any comments on the reliability of friction index readings...
to purchase new equipment or vehicles.

16.3 Do you currently have equipment or other processes in place, or have you purchased any equipment, including manufacturer and number of units: No, we do not have any new equipment which you would like to sell? No, we do not have any services equipment which we would like to sell.

16.4 Do you have any winter services equipment which you would like to sell? No, we do not have any winter services equipment.

5.1 What is the primary method of monitoring FOD in terms of:

5.4 comment on the use of any innovative warning systems and if so which model(s)? No.

5.5 What procedures are in place for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Runway/apron safety bulletins issued occasionally, special Driving Rules for Maneuvering Area.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties? Yes, we have a training programme to control FOD.

6.1 do your staff attend recognised bird control training courses? Yes, ACI and MAAirports.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Hourly.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Scarecrow Ultima, Premier, Partol, Lacroix pyrotechnics.

6.4 Do you carry out a bird strike risk assessment? Yes.

6.5 Do you monitor their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes, Scarecrow Ultima.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Mainly cats and foxes, which are setting traps for; the perimeter fence has been dug 30cm into the ground to prevent foxes digging underneath.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g., MAN); axles (4X4, 6X6); capacities (kg/titre and type); year of manufacture;

12.3 Have you plans to purchase further ice warning systems: None.

12.4 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

12.5 Have you employed any special means to economise on chemical use? Economy.

12.6 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

7.2 Future developments – are there plans to purchase or dispose of any equipment? No.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.

8.1 What is the designated period of snow clearance: 150 days of aircraft de-icing, 80 days of pavement de-icing.

8.2 Average annual days of snow: 45.

8.3 Average snow depth: 20cm.

8.4 Maximum snow in 24 hours: 60cm.

8.5 Annual number of days of de-icing activities: 150 days of aircraft de-icing, 60 days of pavement de-icing.

8.6 Have you purchased any new equipment, such as snow clearing: As above.

8.7 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.8 Have you employed any special means to economise on chemical use? Economy.

8.9 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.10 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.11 Please state here order of priority of snow clearance: 1. Airside, 2. Winter services personnel are available per shift: 2 engineers, 2 workers and 13 drivers.

8.12 Have you purchased any new equipment, such as snow clearing: As above.

8.13 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.14 Have you employed any special means to economise on chemical use? Economy.

8.15 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.16 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.17 Have you employed any special means to economise on chemical use? Economy.

8.18 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.19 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.20 Have you employed any special means to economise on chemical use? Economy.

8.21 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.22 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.23 Have you employed any special means to economise on chemical use? Economy.

8.24 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.25 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.26 Have you employed any special means to economise on chemical use? Economy.

8.27 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.28 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.29 Have you employed any special means to economise on chemical use? Economy.

8.30 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.31 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.32 Have you employed any special means to economise on chemical use? Economy.

8.33 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.34 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.35 Have you employed any special means to economise on chemical use? Economy.

8.36 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.37 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.

8.38 Have you employed any special means to economise on chemical use? Economy.

8.39 do you have any other comments on experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc? We do not mix.

8.40 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.
14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: N/A

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? A special de-icing pad is constructed but it is not yet operational. Currently de-icing takes place on apron.

14.3 Is glycol recovered? If so, please state methods: The new de-icing pad incorporates liquid gathering system for glycol recovery but the pad is not being used yet due to operational reasons.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Sar-syst Saab 9-5 (main), Bowmonik AFM2 Mk3 (back up).

15.2 Have you any comments on the reliability of friction indexes? We have only one main unit and dedicated addresses.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? We are going to add fast-paced snow blower to the formation on runway. The old snow blowers were to slow for formation.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Attachable snow blower – Ovaesan or Patria (Vammas). Perhaps a one-piece snow blower in the nearest future.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: 2 Belarus tractors with plough and brush.

16.4 Do you have any winter services equipment which you would like to sell? No

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ROME

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Roma-Fiumicino

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 07: TORA 3307m, TODA 3367m, ASDA 3307m, LDA 2892m, Width 45m, Shoulder 15x15m; RWY 34: TORA 3002m, TODA 3367m, ASDA 3307m, LDA 3307m, Width 45m, Shoulders 15 x 15m; RWY 16C: TORA 3602m, TODA 3802m, ASDA 3802m, LDA 3802m, Width 45m, Shoulders 7.5 x 7.5m; RWY 34C: TORA 3002m, TODA 3602m, ASDA 3602m, LDA 3002m, Width 45m, Shoulder 15x15m; RWY 16L: TORA 3002m, TODA 3602m, ASDA 3602m, LDA 3602m, Width 60m, Shoulders 7.5 x 7.5m; RWY 16R: TORA 3002m, TODA 3602m, ASDA 3902m, LDA 3902m, Width 60m, Shoulders 20 x 20m; RWY 16L: TORA 3002m, TODA 3602m, ASDA 3602m, LDA 3002m, Width 60m, Shoulders 20 x 20m; RWY 16R: TORA 3002m, TODA 3602m, ASDA 3902m, LDA 3902m, Width 60m, Shoulders 20 x 20m; RWY 16L: TORA 3002m, TODA 3602m, ASDA 3602m, LDA 3602m, Width 60m, Shoulders 7.5 x 7.5m; RWY 16R: TORA 3002m, TODA 3602m, ASDA 3602m, LDA 3602m, Width 60m, Shoulders 7.5 x 7.5m; RWY 16L: TORA 3002m, TODA 3602m, LDA 3602m, Width 60m; Rwy width, shoulder widths, total apron area, ramp area, other): rWy 7-25; tWy bravo and adjacent links; apron East; rWy 34l; tWy alfa and adjacent links; apron West; rWy 34r: tWy charlie and adjacent links; apron West.

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11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearing of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY 16R-34L; TYW Alta and adjacent links; Apron West; RWY 07-25; TYW Bravo and adjacent links; Apron East.

11.2 State the vehicles, formations and other equipment used: 5 Snow plow; 3 Snow blower; 6 Sweeper-blower; 2 anti-icing liquid spreader; 27,000 litres runway de-icing fluid.

11.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, with ANSP and Italian CAA.

11.8 Do you carry out a bird strike risk assessment? Yes.

6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of law-suits): Yes both inspection results and impacts.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed?

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: CFR is done by Fire Brigade which is managed by Italian Internal Affairs Ministry. Their equipment is fully compliant for Cat.10 as stated by ICAO.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? There is a small training simulator not for aeronautical specific training.

8. recent winter conditions

8.1 What is the designated period of winter readiness? December – April.

8.5 Annual number of days of de-icing activities: Less than 1 average day.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 35 for shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 5 Snow plow; 3 Snow blower; 6 Sweeper-blower; 2 anti-icing liquid spreader; 27,000 litres runway de-icing fluid.

13. ICE WARNING SYSTEMS

13.1 State model and number of
ice warning systems: N/A.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: N/A.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No/Yes.

14.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None of this, only stop-bar lights.

14.4 Comment on the use of any innovative warnings or guards – use of paint, signs, light and acoustic beacons: None.

14.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airside safety training only for airport vehicle operators.

14.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the "no-punitive" principles such as "no-penalty" reporting? Yes.

15. BIRD AND WILDLIFE CONTROL

15.1 What model(s) of friction tester do you use? SAAB Friction Tester.

15.2 Have you any comments on the reliability of friction indexes? Yes they are realiable.

15.3 Are you about to change any of other facility manufactures, and number of units: Yes.

15.4 Comment on the use of sweeping and FOD containers: compact jet sweeper, Schmidt, CJS 720, 4 units: Compact Jet Sweeper CJS 914 Super II x 5 units/Solid and liquid spreader with snow plough Mercedes-Schmidt SST-50 x 1 unit/Liquid sprayer Mercedes-Schmidt ASP 25 m span x 1 unit/snow blower Rolba R 3000 x 1 unit/Snow blower Schmidt Supra 3000 x 1 unit/ Snow plough Schmidt SST-50 x 1 unit.

15.5 What are your comments on the reliability of friction indexes? None are realiable.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? No.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes every vehicle/equipment have his own renewal plan.

16.3 Are you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment which you would like to sell? No.

8. RECENT WINTER CONDITIONS

8.2 Average annual days of snow: 6 days.

8.3 Average snow depth: 1.4 cm.

8.4 Maximum snow in 24 hours: 50 cm.

8.5 Annual number of days of de-icing activities: 71 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 20.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number and type of units: (For example: compact jet sweeper, Schmidt, CJS 720, 4 units: Compact Jet Sweeper CJS 914 Super II x 5 units/Solid and liquid spreader with snow plough Mercedes-Schmidt SST-50 x 1 unit/Liquid sprayer Mercedes-Schmidt ASP 25 m span x 1 unit/snow blower Rolba R 3000 x 1 unit/Snow blower Schmidt Supra 3000 x 1 unit/Snow plough Schmidt SST-50 x 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Runway 34/16, TWY A & H, apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Centre line to edges.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 20 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Clariant SAFEWAY KA, 43.800 l.

12.2 Comment on storage capabilities of the chemicals which you use: 60 m3.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "slow-away factor" etc: Only urea is used.

12.4 Have you experienced any corrosion problems with de-icers? No.

12.5 Have you employed any special means to economise on chemical use? No.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or sand on operational areas? No.

12.8 Comment on the chemicals which you use: 60 m3.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: N/A.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: N/A.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: ANSWER: FMC LMD 2000, 2 pcs.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No.

14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SAAB SFT 340 i.

15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? All vehicles are equipped with radio communica-
tion devices to contact wit ATC Tower. Aircraft movements are monitored by ATC Tower. All movement area is monitored by ground radar.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? All marking, signs and lighting sys-
tem are designed according ICAO Annex 14.
5.3 What safety devices are currently employed? (A-ASMCS; Airport Movement Area Safety - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): N/A.
5.4 Comment on the use of any innovative warn-
ings or guards – use of paint, signs, lighting and other lower-cost technologies: reflective mark-
ing, illuminated signs and AGL System.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechan-
ics, aircraft vehicle operators, and other people who work at the airport? Safety operations courses, including ICAO phraseology, are obligatory for all ground personnel at the airport territory.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 
‘non-punitive’ principles such as ‘no-penalty’ report-
ing? The reporting system is part of airport SMS.
6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it prevents the attraction of the airfield to birds: Bird Control Unit operating at Sofia Airport. Manual bird-strike prevention adopted at the airport.
6.2 Do your staff attend recognised bird control training courses? No.
6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.4 What specific procedures do you employ for bird control? (Please state relevant supplier/manufac-
turer): Bird deterrent system: phoenix Wailer mk iii.
6.5 Do your staff log all their bird control ac-
tivities? (To manage success in dealing with the problem: to let a defence in case of lawsuits): Yes – records in the Report Book.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Rabbits and dogs appear accidentally at the airfield. Bird Control Unit deals with prevention of accidents connected with other wildlife.
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN): axles (4x4, 6x6); capacities (kg/litre and type); year of manufac-
ture: Mercedes UNIMOG, 4x4, 1000/1000; 1 unit; Mercedes SAURUS AS 12 + 250, 6x6, 1000/1200 l; 2 units; Tata CAS 815, 6x6, 8000/800, 2 units; Mercedes truck with tank of 22000/170 l, equipped with an installation for runway foaming, 1 unit.
7.2 Future developments – are there plans to pur-
chase or dispose of any equipment? Plans for supply of Fire Fighting Vehicle and Emergency Vehicle.
7.3 If your airport possesses a Fire Train-
ing Simulator, is this available to other air-
ports for training purposes? No.
PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1. What is the designated airport’s level of win-
ter readiness? November – March.
8.2 Average annual days of snow: Jan: 11; Feb: 10; Mar: 7; Nov: 1; Dec: 9.
8.3 Average snow depth: Jan: 11.2; Feb: 8.2; Dec: 4.
8.4 Maximum snow in 24 hours: Jan: 64; Feb: 40; Mar: 18; Nov: 10; Dec 36cm.
8.5 Annual number of de-icing activities: 42 – 49 Days.
9. WINTER ORGANISATION
9.1 How many airport-employed or sub-con-
tracted winter services personnel are available per shift? 5 employed / shift; total 10 + 5.
10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other equipment with description, purpose, manu-
facturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units): Truck-trailer, Tatra, 9 units; Rotor sweeper, Ural, 2 units; Rotor sweeper, Roba Burch, 2 units; Brush blower, Over-
asen, 6 units; Brush blower with plough, Boshung, 2 units; Brush blower with plough, Fresia, 2 units; Spe-
cialized snow cleaning combined machine, Boshung, 1 unit; Specialized snow cleaning combined machine, Burch, 2 units; Spreader, IFA, 1 unit; De-icing ma-
chine, Boshung, 1 unit; Plough, Schmidt, 11 units.
11. PROCEDURES AND METHODS
11.1 State the vehicles, formations and general method of runway, taxiway and apron clearance: General method is: Push out snow with ploughs and brushing; Throw out snow with rotor sweeper; Use spreader / if necessary; Friction testing.
11.2 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 15 – 45 minutes.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Carbamid (urea) 200 t.
12.2 Comment on storage capabilities of the chemicals which you use: 140 l.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc: Use only solid de-icers, treatment from wind direction.
12.4 Have you experienced any cor-
rosion problems with the equipment? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.
13. ICE WARNING SYSTEMS
Runway of Sofia Airport is not equipped with ice-warning system.
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/
de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes, Sofia airport directly provide anti/de-icing operations.
15. FRICITION TESTING
15.1 What mode(s) of friction tester do you use?
Sofia Airport has in operation 2 surface friction testers: Saab 9000 SFT; Saab 95 SARSYS.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS
16.1 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.2 Do you plan to purchase new equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.

6. BIRD AND WILDLIFE CONTROL
6.1 Do your staff attend recognised bird control training? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly?
Continuously monitoring all areas of the airfield.
6.3 What specialist equipment do you employ for bird control?
(please state relevant supplier/manufacturer; Scarecrow Premier 1500/G bio-acoustic Bird Dispenser.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities?
(to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.
6.6 Does your airport have problems with other birds: long grass policy. Continuous bhm pa-
trols. Regular refresher training for staff.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6);

bars, rumble strips, FOD containers etc); FOD bins ahead of every stand. Stand sweeping plan with use of FOD Bows.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of mon-
toring vehicle and aircraft movements on the ground? NATS Air Traffic Control.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards?
Solar Powered Runway Guard Lights.
5.5 What specific procedures are there for training and awareness among pilots, control-
tors, maintenance staff, airport personnel and other people who work at the airport? Air-
port Safety Training, Airside Driver Trainer.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' report-
ing? Mandatory Occurrence Report with NATS.

7.3 If your airport possesses a fire train-
ment? 2 x Rosenbauer on order.
7.2 Future developments – are there any


7.5 What specific procedures are there for

5.4 Comment on the use of any innova-
tive warnings or guards – use of paint, signs, lighting and other lower-cost technologies:
Solar Powered Runway Guard Lights.
5.3 Have you any comments on the reli-
ability of friction indexes?
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Mandatory Occurrence Report with NATS.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards?
Solar Powered Runway Guard Lights.
5.5 What specific procedures are there for training and awareness among pilots, controllers, maintenance staff, airport personnel and other people who work at the airport? Airport Safety Training, Airside Driver Trainer.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Mandatory Occurrence Report with NATS.
5.3 Have you any comments on the reliability of friction indexes?
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Mandatory Occurrence Report with NATS.
other facility manufactures, and number of units: All aircraft antide-icing is sub contracted to Servair.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? All de-icing carried out on stand. Effluent to separator 14.3. Is glycol recovered? If so, please state methods: Glycerol is captured by Penstock.

15. FRICTION TESTING

15.1. What model(s) of friction tester do you use? Gip Tester Mk2 C Type.

15.2. Have you any comments on the reliability of friction indexes? We found the results easy to understand and reliable.

16. FUTURE DEVELOPMENTS

16.1. Are you about to change any of your airport’s methods? Yes due to re-categorising - CAT 1.

16.2. Do you plan to purchase new equipment or equipment changes? If so, please provide details: Replacement of daily operational vehicles (Landrover type) in business plan.

16.3. Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4. Do you have any winter services equipment which you would like to sell? No.

5. RUNWAY INCURSION PREVENTION

5.1. What is the primary method of monitoring vehicle and aircraft movements on the ground? System n/a (radio-communication only).

5.2. Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes.

5.3. What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): N/A.

5.4. Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: No.

5.5. What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? According Airport Manual, and CAT.

5.6. Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6.1. Do your staff attend recognised bird control training courses? No.

6.2. Are your bird control staff working on the airfield continuously, hourly, less than hourly? They are working continuously.


6.4. Do you carry out a bird strike risk assessment? Yes.

6.5. Do your staff log all their bird control activities? (To manage success in dealing with the problem, and to use information in case of lawsuits): Yes.

6.6. Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1. Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (displacement and type; year of manufacture: MAN 28603DFAX 6x6, water 8.500 L, foam 1.000 L, year 2001; MERCEDES ACTROS 3358 6x6, water 9.000 L, foam 1.000 L, year 2008.

7.2. Future developments – are there plans to purchase or dispose of any equipment? Described CFR vehicle are relatively new and in perfect conditions. New purchase is planned within 5 year period.

7.3. If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No we do not have such equipment.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1. What is the designated period of winter readiness? Period from November – April.

8.2 Average annual days of snow: 1-2 days.

8.3 Average snow depth: 0.2 - 1cm

8.4 Maximum snow depth: N/A.

8.5 Annual number of days of de-icing activities: 2-4 days.

9. WINTER ORGANISATION

9.1. How many airport-employed or sub-contracted winter services personnel are available per shift? 4-5.

10. WINTER EQUIPMENT INVENTORY

10.1. Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units): Tractor VALTRA N101 with snow plough RASCO PK 3.2, 1 unit

11. PROCEDURES AND METHODS

11.1. Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: N/A.

11.2. State the vehicles, formations and general method of runway, taxiway and apron clearance: N/A.

11.3. After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? N/A.

12. EXPERIENCE WITH CHEMICALS

12.1. State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: No.

12.2. Comment on storage capabilities of the chemicals which you use: No.

12.3. Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: No.

12.4. Have you experienced any corrosion problems with de-icers? No.

12.5. Have you employed any special means to economise on chemical use? No.

12.6. Do you have any other comments on experience with chemicals? No.

12.7. Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1. State model and number of ice warning systems: N/A.

13.2. Have you plans to purchase further ice warning systems and if so which model(s)? No.

13.3. Comment on your experiences of the benefits/disbenefits of ice warning systems: N/A.

14. AIRCRAFT DE-ICING

14.1. Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Mercedes DeAnti icing vehicle. Claireant safelwag MIV.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? On parking area.

14.3. Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1. What model(s) of friction tester do you use? Surface friction tester SPH (Saab vehicle).

15.2. Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1. Are you about to change any of your airport’s methods? No.

16.2. Do you plan to purchase new equipment or vehicles? If so, please provide details: No.

16.3. Do you currently have equipment or other...
1. AIRPORT NAME: Stavanger Airport
2. MANOEUVRING AREA DATA
   2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length or lengths, Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): As described in AIP: RWY 18/36 255X60 M, TORA 2556 Shoulders 2x 7,5 M RWY 11/29 2296, TORA 11 2295, TORA 29 2349 Shoulders 2X7.5 M Aprons: 17 acf stands by terminal. Several remote acf stands. 9 helicopter stands.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 11 and WRY 36: ILS CAT I, RWY 18 ILS CAT II, RWY 29 ILS CAT II.
3. SAFETY MANAGEMENT SYSTEMS
   3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No major changes to our SMS, SMS are continuously, hourly, less than hourly? h16.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
   4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: FOD is one of the subjects of every airside safety training.
   b) Inspection by airline, airport, and airline handling agency personnel: Every person operating airside is trained and responsible to take action if FOD is observed. RWY’s and TWY’s are inspected periodically for FOD.
   c) Maintenance (use of sweeping, magnetic bars, and Wy’s are inspected periodically for FOD): Sweeping of safety incidents been set up jointly with other parties active in these processes? No. Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes.
5. BIrD AND WILDLIfE CONTROL
   5.1 What is the primary method of runway safety incidents caused by birds? For runway incidents are used, working hand-in-hand with our own airside driving course. Awareness is a part of these courses.
   5.2 Are any design or engineering changes being made to the runway? No. Have you considered to dispose of the runway? No. Do you expect to achieve ‘black top’ on the runway? 30 minutes (45 M width).
6. EXPERIENCE WITH CHEMICALS
   6.1 Does the airport directly provide aircraft anti-icing equipment? No. Are you required to have dedicated de-icing facilities or do you de-ice on the parking area? Dedicated de-iceing area, preventive anti-icing on stand. 3 vehicles in total, manufacturer unknown. 55696 liters used, good effect if not too cold.
   6.2 Are your staff log all their bird control training courses? Yes.
   6.3 What specialist equipment do you employ for bird control? (Please supply relevant supplier’s manufacturer): Scarecrow Patrol 2 and Lord LEM 50 Laser. Lord TDM 500 lasers are installed November 2010.
   6.4 Do you carry out a bird strike risk assessment? Yes.
   6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Bird patrol is logged, specific activities during bird patrol is not yet logged.
   6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Minor problems with small deer. They are shot if they are observed airside.
7. CRASH FIRE RESCUE
   7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 4XROSENBAUER MAN 6X6 1984, 1998, 1996, 2000, 6500/8300/8300/8300 l water, 400/500 l foam.
   7.2 Future developments — are there plans to purchase or dispose of any equipment? New fire fighting trucks will replace the old ones during 2011. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes.
8. RECENT WINTER CONDITIONS
   8.1 What is the designated period of winter readiness? October-May.
   8.2 Average annual days of snow: Last year 90 days, other years average 30 days.
   8.3 Average snow depth: 2-10 cm.
   8.4 Maximum snow in 24 hours: 20 cm.
   8.5 Annual number of days of de-icing activities: 70.
9. WINTER ORGANISATION
   9.1 Does your airport directly provide aircraft anti-icing equipment? If yes, please state vehicle or other facility manufacturers, and number of units. (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 1 X snow sweeper and 3 X volvo rwy deicing vehicle.
10. WINTER EQUIPMENT INVENTORY
    10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): vehicles used to clear runway and de-icing equipment.
11. PROCEDURES AND METHODS
    11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY 18-36 and TWY’s leading from helicopter and fixed wing terminal, has priority 1. Other RWY’s and TWY’s including aprons priority 2. Snow clearance on ACFT stands are executed by other staff, priority 1.
    11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 6 sweepers in formation, followed by a snow clearance vehicle to remove the snow ridge. Controlled by the team leader. 11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? 30 minutes (45 M width).
12. EXPERIENCE WITH CHEMICALS
    12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperature and achieved holdover times for runway. (For example: Schmidt, Avform, 55696 liters used, good effect if not too cold.
    12.2 Comment on storage capabilities of the chemicals which you use.
    12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc.
    12.4 Have you experienced any corrosion problems with de-icers? -
    12.5 Have you employed any special means to economise on chemical use? Every operator has this autumn been trained, to use the correct amount of liquid, to achieve the best combination related to effect and environment.
13. ICE WARNING SYSTEMS
    13.1 State model and number of ice warning systems. SNOWTAM.
    13.2 Comment on your experiences of the benefits/disbenefits of ice warning systems.
14. AIRCRAFT DE-ICING
    14.1 Does the airport directly provide aircraft anti-icing operations? No. Have you participated in or sub-contracted winter services personnel are available per shift? 6-10.
15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? Tribometer SKH.
15.2 Have you any comments on the reliability of friction indexes? -:

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units.
16.4 Do you have any winter services equipment which you would like to sell? No.

STOCKHOLM
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT MAP: Stockholm-Arlanda Airport
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other: RWY 01/L9, 3301m, 3300mm, 2x15m; RWY 08/26, 2500m, 45m, 2x15m; RWY 01R/19L, 2500m, 2500, 45m, 2x9m. Total apron area 975,000 sqm.
2.2 Landing aids for each RWY (e.g. CAT II): 01L/ILS CAT II + RNP AR; 19R/ILS CAT I; 01R/ILS CAT III; 19U/ILS CAT III; OB VOR/DME + LLZ; 26/ILS CAT I.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Our SMS Safety Management System is well established and continuously reviewed, no recent changes have taken place aside editorials.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: Introductory course in Airport Regulations and Working at an Airport covers the basics, painted with interactive combined web training for Safety and Security.
   b) Inspection by airside, airport, and airplane handling agency personnel: Done at regular intervals.
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD contain ers available at all gates and stands, sweeping at regular intervals. Regulated by working instructions.
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Discussed at meeting forums and communicated daily by Airport Supervisor.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Daily regular inspections following set procedures. Ad-hoc inspection requested by ANSP-TWR.

5. RUNWAY INCURSION PREVENTION
5.1 What is the method of monitoring vehicle and aircraft movements on the ground?
   a-SMGCS with MLAT and SMR, ADS-B, VDL mod-4.
   b- Any design or engineering changes being undertaken/required to eliminate perceived hazards? Under continuous review.
   5.2 What safety devices are currently employed? (e.g. SMGCS; Airport Movement Air Traffic Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS
   5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Green paint (to replicate grass) used to enhance taxi-way circulation areas and some apron edges.
   5.5 What ideas do you have for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Initiated at times by the Local Runway Safety Team.
   5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Through the Local Runway Safety Team meetings all represented parties are encouraged to share information. ANSP-TWR copy reports into the Airport quality control system. Yes, required by law.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your bird control policy and how it reduces the attraction of the airfield to birds: Long grass policy, regular grass cutting, ground covering fenced strengthened at unmanned gates, choice of ground covering vegetation helps to prevent a food chain build up, hence a less attractive bird habitat . We also eliminate availability for nesting.
   6.2 Do your staff attend recognised bird control training courses? Our principal hunter at yearly intervals, assisting staff every 4 years.
   6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): We use various suppliers and equipment. For scaring 15 mm and calibre 12 shots using handguns. Distress call speaker, Scare Crow, handheld. Green laser (Lord Tom 500 Lasers, 3 units, Birdcontrol.
   6.4 Do you carry out a bird strike risk assessment? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’ principles such as ‘no-penalty’. Do you use? Tribometer SKH.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating:
   a- vehicle type; chasis (e.g. MAN); aës (4x4, 6x6);
   7.2 Future developments – will you plan to purchase or dispose of any equipment? We will buy new CFR vehicle 2011-2012.
   7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes we have a 30 meter fuselage simulator at our exercise area combined with fuselage from a crashed aircraft set in the woodlands nearby. We use environmentally friendly Bio Fuel during exercises.

PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? Early October until end of April.
8.2 Average annual days of snow: 110 days.
8.3 Average snow depth: 60cm (ac cumulated snow depth).
8.4 Maximum snow in 24 hours: 23cm.
8.5 Annual number of days of de-icing activities: 62 days.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 22.
10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 17 Schmidt TJ560 Small Compact Jet Sweepers + Snow Plows; 8 Wheel Loaders Volvo L50-120; 2 Sand sprinkle-devices Schmidt Nido Stroman; 3 Runway de-icing vehicles Nido RSP; 3 Articulated Haulers Volvo A 30 Snowdumpers; 2 Snowblowers Ovaa sen 1560 Supra 5000; 3 Wheeled Shovel-Loader Ova sen 5000; 4 Truck Snowtransporter; 4 Surface friction testers SFR1; 1 Snowgroomer.
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: 1. Runways, high speed taxiways, emergency roads adjacent to runways. 2. Taxiways. 3. Apron. 4. ILS critical areas. 5. Other Arisite pads.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Runway/ 10 sweeper formation covering full width, followed by 1 or 2 runway de-icers and 2 friction testers. Taxiways and aprons/ 3-4 sweeper formation. At aprons snow swept from stands towards apron centre where loaded onto trucks and dump ers for transport to remote deposit site. Stands/ 5 Wheel Loaders with brush or plow attachments.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Black top runway achieved in 8-10 minutes.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Potassium Formiat, 640 000 liters. Varies with weather and temperature down to a low holdover time of 30 min.
12.2 Comment on storage capabilities of the chemicals which you use: We can store up to 300 000 liters.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, how you respond to have to clean only used at stands and apron roads, as time factor reduces practical use on runways and taxiways.  
12.4 Have you experienced any corrosion problems with de-icers? Yes on steel details.  
12.5 Have you employed any special means to economise on chemical use? Yes by using new equipment and maintenance.
12.6 Do you have any other comments on experience with chemicals? Tends to be very expensive and produces some problems after the winter season ended.  
12.7 Do you use other chemicals or sand on operational areas? Sand used at taxiway curves, at stands and on aprons.

**13. ICE WARNING SYSTEMS**

13.1 Have you planned to purchase new ice warning systems and if so which model(s)? No.  
13.2 Comment on your experiences of the benefits/disbenefits of ice warning systems: We have a very positive experience using the system, helping us monitor the actual situation at the airport.

**14. AIRCRAFT DE-ICING**

14.1 Does the airport directly provide aircraft anti/de-icing operations? Yes, please state vehicle or other facility manufactures, and number of units: No.  
14.2 Are you interested to have dedicated de-icing positions or do you de-ice on the parking area? We use both dedicated positions and the parking area.
14.3 Is glycol recouped? If so, please state methods: Yes. Drainage system and mechanical collection.

**15. FRICTION TESTING**

15.1 What model(s) of friction tester do you use? Sarps SFH (Surface Friction Tester High Pressure).
15.2 Have you any comments on the reliability of friction indexes: No. All friction testers are calibrated once a week.

**16. FUTURE DEVELOPMENTS**

16.1 Are you about to change any of your airport’s methods? Minor adjustments to some methods.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Testing of a natural gas driven sweeper will be done in the north part of Sweden over this winter season.
16.4 Do you have any winter services equipment which you would like to sell? At times available through Swedenalsa Technical division.

**3. SAFETY MANAGEMENT SYSTEMS**

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS is not available at Tivat airport, neither as part of Aerodrome (Certification) Manual nor as a standalone publication. Nevertheless, there are several safety related procedures that are in force locally (at the airport) and are integrated in Airports of Montenegro QMS (Certificate Standard: ISO 9001:2008, No: 75 100 50125, valid through: 16.04.2011).

**4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION**

4.1 Describe your airport’s programme to control FOD: 
   a) Training: Training provided by Training Centre of Airports of Montenegro for ground handling personnel. 
   b) Inspection by airline, airport, and airplane handling agency personnel: Once a year, at least, inspections are performed by airlines (This year it was done by SAS Scandinavian airlines and Malmo aviation).
   c) Maintenance (use of sweeping, magnetic bars, rumbled strips, FOD containers etc): Airfield Sweeper “FOD BOSS”.
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Maintenance of both movement and manoeuvring areas is responsibility of airport operator i.e. Tivat Airport.

**5. BIRD AND WILDLIFE CONTROL**

5.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Following procedure “Tivat airport Bird strike and wild life hazard prevention programme and management” is applicable at Tivat airport.
5.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
5.3 What specialist equipment do you employ for wildlife control? (Please state relevant supplier/manufacturer): ARFFS truck horn and start gun /shotgun (if needed).
5.4 Do you carry out a bird strike risk assessment? No.
5.5 Do your staff log all their bird control activities? To manage success in dealing with the problem, and to use in defense of lawsuits: Yes, in the Bird Strike Report, contained in above stated procedure.
5.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

**7. CRASH FIRE RESCUE**

7.1 Please detail your CFR vehicle inventory stating: vehicle type, chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/titre and type); year of manufacture: Type: Rosenbauer – Panther, 2 units, Chassis: MAN, Axle: 6x6, Capacity: water/12,000 l; foam/1,500 l, Year of manufacture: 2004.
7.2 Future developments – are there plans to purchase or dispose of any equipment? There are no near future plans for purchasing new CFR equipment.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Training Simulator is not available; for training purposes practical exercises are in place.

**PART 2: WINTER SERVICES QUESTIONNAIRE**

Part 2 Remark (excluding 15. and 16.): Procedures related to winter conditions are not applicable at Tivat airport. In case of snow, ice etc., that happen very rarely (or almost never), Tivat airport would be closed.

**15. FRICTION TESTING**

15.1 What model(s) of friction tester do you use? Friction tester model: ASFT – T10.
safety incidents been set up jointly with other par-
5.6 have the reporting procedures for runway
was developed by the local runway safety team.
on the airfield (including initial training, skill test and
requirements was introduced for all vehicle drivers
dress identified hazards and to promulgate inci-
team is organizing awareness campaigns to ad-
5.5 What specific procedures are there for training
operation time (also in good weather and daylight
routes reduced taxi complexity significantly. enhanced
two of the most hazardous rWy intersection was
5.1 What is the primary method of monitoring vehicle and aircraft move-
ments on ground is visual observation, partly assisted by cameras and A-SSMGCs during Low Visibility.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards?
One of the most hazardous RWY Intersection was physically closed. Defined and published standard taxi route
5.4 comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other
less-cost technologies: All Runway holding positions are ade-
clearance of main operational facilities (run-
7.1 please detail your CFR vehicle inventory stating:
vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture:
Chrysler Voyager , command vehicle , 4x4 , 1994 ;
Chrysler Voyager , command vehicle replacement , 4x4 , 1994 ;
MOWAG, mobile command and control vehicle, 4x2, 1980; Fire engine: Scania Vogt, 2
7.2 future developments – are there plans to
7.3 if your airport possesses a fire training simulator,
mercedes 3 *trax from contractors; **truck from con-
7.4 do you carry out a bird strike risk assess-
two times a day the Airport Authority makes it a
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechan-
aries, airport vehicle operators, and other people who work at the airport? The Local Runway Safety
The Local Runway Safety Team is organizing awareness campaigns to ad-
5.6 Have the reporting procedures for runway
together with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? The Local Runway Safety Team has established a common runway incursion database. Furthermore, a bi-annual “Runway Safety Report” to monitor trends in incursion numbers and effectiveness of measures is published.
6. BIRD AND WILDLIFE CONTROL
6.1 What is the primary method of monitoring vehicle and aircraft movements on ground? The primary
Methods of monitoring vehicles and aircraft move-
ments on ground is visual observation, partly assisted
by cameras and A-SSMGCs during Low Visibility.
6.2 Are your bird control staff working on the
airfield on a full-time or part-time basis? Full-time.
6.3 What specialist equipment do you employ for
bird control? (Recorded distress calls, pyrotech-
nics, shotguns, dogs, lasers, falcons). Please state
relevant supplier/manufacturer: For controlling accumulation of birds mainly pyrotechnic means
(signal petals type Hecker & Koch, P3A1 with signal
rockets, and R69m Revolvers RG 56) are used.
Various other devices for hunting permitted firearms
are used only by the licensed hunter. Lasers and falcons have been introduced and used during trials.
6.4 Do you carry out a bird strike risk assess-
ment? Two times a day the Airport Authority makes it a
5.3 What safety devices are currently employed (A-SSMGCs; Airport Movement Area Safety System
- AMASS; or ASD-E-X, the Model X Airport Surface De-
tection Equipment)? Zurich is operating an A-SSMGC with the integration of the Approach radar, two ASD-
and a Multilateration-System (also called ASD-E-X).
summer 2010 level II of the A-SSMGC has been com-
plicated with the deployment of the Runway Incursion
Monitoring and Collision Avoidance System (RIMCAS).
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other
clearance of bird strike events is important. Monitoring with the,
and to use in defence in case of law-
suits): Yes. Bird strike control reports are filled out by the staff. The bird strikes are also listed in
the daily airport operation service journal.
6.5 Have your airport policies with problems of other
wildlife (sheep/dog, for example) and, if so, how are these birds being managed? (including an additional
9. WINTER ORGANISATION
9.1 How many airports own or sub-contract-
certified winter services personnel are available per
shift? 54 airport employees, 10 contractors.
10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufac-
turer and number of units (For example: compact jet sweeper Schmidt, C954 2x 6/2, snow clearance
airside) (Flughafen Zürich Ag owned equipment):
compact jet sweeper Boschung plough 6m 9; compact
jet sweeper Boschung plough 8.4m 14; rotary snow
Översenav TV 2000 2; rotary snow Roba R-10,000 2;
rotary snow Roba R-3,000 1; rotary snow / loader
Bucher R-600 1; loader / blower Schmidt Supra 3;
snow-blade* Ramphog, 6m 1; snow-blade Översenav
6m 1; snow-blade Ammann 6m 1; plough** Peter 6m
16 plough**; Peter / Zaugg 4m 32; truck (for plough)
Mercedes 3 *trax from contractors; **truck from con-
tractors. De-icing vehicles multi de-icer Küpper-Weiss-
er 40m 3; Multi de-icer Küpper-Weisser 20m 1; multi
de-icer Küpper-Weisser 6m 2; multi de-icer Pony 4m 2;
Snow-clearance loaders plough / gritter Unimog
1; plough / gritter Fendt 3; plough* various 2; plough /
Zaugg 1,5m 1; plough / Holder Zaugg 1.5m 2;
truck from contractor. Contractors airside snow
deportations: Deportation trucks various 13-30;
loadervarious 3m 6; Rafflatter various 40m 3 5.
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow
delays of main operational facilities (run-
ways, taxiway, aprons etc) stating identity of each
facility: Air- and landside have equal priorities. First
priority airside: RWY 16/34, 3.7 km (incl. TWA’s); RWY 10/28, 2.5 km (incl. TWA’s); RWY 14/32,
3.3 km (incl. TWA’s); Apron (docks’ area snow
clearance), all non-covered parking lots; Apron /
apron-taxiways, Secondary apron-taxiways, Service
core roads; Maintenance areas; General Aviation area.
11.2 State the vehicles, formation and gen-
eral method of runway, taxiway and apron clear-
ance: Two formations with 7 trucks (mounted
plough, blow-sweep each), 2 trucks (mounted
plough only), 1 rotary snow, 1 multi de-icer.
11.3 After moderate snow, how quickly do you expect

(AIRSIDE SAFETY SURVEY 2011 P73)
to achieve ‘black top’ on the runway? 45 minutes.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Aviform L50, ca. 1, 990,000 litres.
12.2 Comment on storage capabilities of the chemicals which you use: Storage capacity 500’000 litres 24 hours supply guaranty.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liq-
uids, “blow-away factor” etc: Tests during the last and the coming winter season are be-
ing carried out with acetates and formiates.
12.4 Have you experienced any corro-
sion problems with de-icers? Some prob-
lems will be extended at the airport-expansion.
12.5 Have you employed any special means to economise on chemical use? Heated aircraft stands at the docks A
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Boschung system 2000; 3 sensors per RWY (9 in total), 6 sensors in the apron area.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Facili-
ties will be extended at the airport-expansion.
13.3 Comment on your experiences of the ben-
efits/disbenefits of ice warning systems: The system is a good aid in monitoring the weather impact in connection with winter services.
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/
de-icing operations? If so, please state vehicle or other facility manufacturer, and number of units: No.
14.2. Are you required to have dedicated de-
icing positions or do you de-ice on the parking area? Both, dedicated de-icing positions (de-
icing pad F and C) and on-stand de-icing.
14.3 Is glycol recovered? If so, please state methods: Yes, glycol is recovered. The material is collected in storage basins for wastewater treatment. On 20 hectares it is treated for biological degradation by micro organisms of the soil. The high concentrated part is distilled and recycled; the rest as carbon
14.4 Are you required to have any winter services equipment? No.
15. FRICITION TESTING
15.1 Please list the identities of primary operational vehicles, and how it reduces the attraction of the airfield to
birds: flight ornithological security assurance. due to bird concentration in the airport and nearby
area. Flight ornithological maintenance is aimed at prevention of Bird strike in airport area. Due
and qualitative execution of prophylactic (preven-
tion) works for scaring birds. Training of interested
candidates for the improvement of their knowledge.
Performance elaboration and fulfillment for flight
ornithological security improvement in “Zvartnots”
international airport. Due to the above mentioned policy birds strike reduces for 20% each year.
15.2 Are you required to have dedicated de-
icing positions or do you de-ice on the parking area? Both, dedicated de-icing positions (de-
icing pad F and C) and on-stand de-icing.
15.3 Is glycol recovered? If so, please state methods: Yes, glycol is recovered. The material is collected in storage basins for wastewater treatment. On 20 hectares it is treated for biological degradation by micro organisms of the soil. The high concentrated part is distilled and recycled; the rest as carbon
15.4 Are you required to have any winter services equipment? No.
16.1 Are you about to change any of your airport’s methods of removing snow (including vehi-
16.2 Are there areas of your winter opera-
tions which require improvement? No.
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.4 Do you currently have equipment or other products on order? If so, please provide details
including manufacturer and number of units: No.
16.5 Do you have any winter services equipment which you would like to sell? No.
17. EXPERIENCE WITH CHEMICALS
17.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Aviform L50, ca. 1, 990,000 litres.
17.2 Comment on storage capabilities of the chemicals which you use: Storage capacity 500’000 litres 24 hours supply guaranty.
17.3 Comment on your experience with solid de-icers, for example mixing ratios with liq-
uids, “blow-away factor” etc: Tests during the last and the coming winter season are be-
ing carried out with acetates and formiates.
17.4 Have you experienced any corro-
sion problems with de-icers? Some prob-
lems will be extended at the airport-expansion.
17.5 Have you employed any special means to economise on chemical use? Heated aircraft stands at the docks A
17.6 Do you have any other comments on experience with chemicals? No.
17.7 Do you use other chemicals or sand on operational areas? No.
18. ICE WARNING SYSTEMS
18.1 State model and number of ice warning systems: Boschung system 2000; 3 sensors per RWY (9 in total), 6 sensors in the apron area.
18.2 Have you plans to purchase further ice warning systems and if so which model(s)? Facili-
ties will be extended at the airport-expansion.
18.3 Comment on your experiences of the ben-
efits/disbenefits of ice warning systems: The system is a good aid in monitoring the weather impact in connection with winter services.
19. AIRCRAFT DE-ICING
19.1 Does the airport directly provide aircraft anti/
de-icing operations? If so, please state vehicle or other facility manufacturer, and number of units: No.
19.2 Are you required to have dedicated de-
icing positions or do you de-ice on the parking area? Both, dedicated de-icing positions (de-
icing pad F and C) and on-stand de-icing.
19.3 Is glycol recovered? If so, please state methods: Yes, glycol is recovered. The material is collected in storage basins for wastewater treatment. On 20 hectares it is treated for biological degradation by micro organisms of the soil. The high concentrated part is distilled and recycled; the rest as carbon
19.4 Are you required to have any winter services equipment? No.
19.5 Do you have any winter services equipment which you would like to sell? No.
and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJ-2, 720, 4 units); Snow plough, quantity -12 pieces PM-130; Hot-air splatter machine, quantity 1 piece GM-1 KRAZ - VK-1 aviamotor; Snow collector (POMOP) machines, quantity- 2 pieces (D-902, DE-226); ZIL-4502-70 liquid chemical reagent machine; Zil-130-95 chemical solid reagent machine; Hot-air-splatter GM-1 KRAZ - VK-1 aviamotor).

11. PROCEduRES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY B,C,D , main, 10 meters strip from each edge of the RWY, ILS zone, edge lighting of the RWY. All stands 10 meters from each edge of the TWY-s, Aprons, engine checking stand and TWY A. 25 meters strip from each edge of the RWY and all vehicle movement area.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The Runway snow removal is performed in patrol method (patrol snow removal) with snow clearing machines of PM-130 type: The removal of snow is performed beginning from the Runway axle till the boundary, snow piles on the Runway boundaries are removed immediately with snow ploughs from there with snow collector machines.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Removal of snow from the Runway should be performed from the beginning of snow fall between landing and take-off. If there is a layer of dry snow with 2-3cm thickness of the runway.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: For removing the ice-crust from the pavement in the chemical way the carbamide (AHS) chemical solid or anti – icing liquid as well as heating machine (HM-1 KRAZ VK aviamotor) is used , which moved along the Runway axle.

12.2 Comment on storage capabilities of the chemicals which you use: 15,000kg.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: After corrosion of ice-crust in chemical method, when the ice layer becomes fragile and loses its viscosity with the cover surface, it is necessary to clean the slush from the cover, for this purpose there should be used: snow plough swaths (PM-130, quantity -12 , KAMAZ -4326 ?), as well as for increase of the friction coefficient it is necessary to dry the cover with an Aerodrome heating machine HM-1 KRAZ 1 aviamotor.

12.4 Have you experienced any corrosion problems with de-icers? Yes.

12.5 Have you employed any special means to economise on chemical use? Yes.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or sand on operational areas? No.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state vehicle or other facility manufactures, and number of unit: No. It’s done by handling company “Zvartnots Handling”,
KEMIRA’S ENVIRONMENTALLY FRIENDLY DE-ICERS

KEMIRA supplies the world’s airport industry with a range of organic salts designed to ensure the required friction for traffic operational surfaces. The company specialises in the production of organic salts based on acetic and formic acids, and one of its major activities includes the development, production and marketing of environmentally friendly runway de-icers.

The products prevent ice and snow build-up in a safe and environmentally responsible manner and the product range includes both liquid and solid products. Kemira Clearway products are readily biodegradable, and are not water endangering. Experience gained at various civil and military airports shows that environmental friendly Clearway products melt ice and snow effectively. The basis for Kemira’s success is a highly flexible production and logistical set-up that can produce and supply large amounts of products on a continuous basis. The company is also closely monitoring the proposed changes in the AMS standards, and are currently focusing our R&D efforts on meeting the possible changes in the industry standards.

In an industry where precise measurement and constant monitoring is the exception rather than the rule, Kemira has a corporate reputation for consistency and quality, backed up by its ISO 9002, ISO 14000 and ISO 18001 certification.

MORE DE-ICING ELEPHANTS ORDERED

DENMARK-BASED GSE manufacturer Vestergaard Company has reported a significant increase in sales of aircraft de-icers for virtually all winter airport markets. Sales apply both to urgent deliveries for this winter season and for the 2011-2012 season where customers want to secure sufficient aircraft de-icing capacity for the longer term.

Among others, additional closed-cabin Elephant Beta de-icers will thus in 2011 be delivered to airports in Frankfurt, Munich, Prague and Geneva, as well as in Vancouver in Canada and several stations in Japan.

In the medium-sized segment, deliveries include open-basket Elephant My ordered by LOT Services for their handling operation in Krakow and additional units for customers in Germany, Romania and France.

Customer interest has also been significant for the smallest member of the Vestergaard Elephant family, the Sigma, which due to its compact size and yet wide range of features, appeals especially to operators in smaller airports.

Orders include a delivery for Norwegian regional airline Widerøe, whose Sigma fleet features the proportional mixing system, which can significantly reduce glycol consumption and thereby benefit the environment. New operation sites of the Sigma now also include Montpellier for Air France and Le Bourget for Manustra.

YEAR-ROUND SOLUTION

THE SWISS-BASED Boschung Group is one of the leading manufacturers of vehicles and equipment for surface maintenance of cities, roads, highways and airports.

The company has been developing and manufacturing high quality products for more than 60 years and now counts close to 500 employees located in offices in Switzerland, France, Germany, and Austria, as well as in China, North America and the CIS.

Marcel Boschung Ltd produces the various vehicles of the company (sweepers, high-pressure washers, snow blowers, multi-purpose vehicles). Boschung Mecatronic specialises in ice early detection systems, fixed automated thawing agent spray technology, road and runway management software and control units. Küpper-Weisser, based in Germany and part of the Boschung Group since 2001, specialises in state-of-the-art spreader and snow plow technology. Boschung Airport Division specialises in airport equipment, notably the Jetbroom product range.

Boschung provides a global, all-year long solution to airports’ needs under the name Surface Condition Management (SCM). SCM includes the full range of summer and winter equipment, fixed and mobile systems, as well as the appropriate software and electronics to centrally manage it all.
ECOLOGICALLY DRIVEN DE-ICERS

DURING THE last decade, Proviron Industries N.V. has established itself in the market as a reliable supplier of environmentally benign formate and acetate-based airport runway and highway de-icers. All of the company’s products are considered safe for the environment, exhibit low toxicity to vegetation and aquatic life, have low corrosion rates and work longer than common de-icers.

Proviron is constantly working on developments which are even more ecologically driven. Its team of specialists is always happy to assist with any inquiries and, upon request, pay site visits for a more detailed presentation of the company and its de-icing products.

The Proviron de-icing product range comprises: Cryotech E-36 Liquid Potassium Acetate – AMS1435A approved; Cryotech NAAC Solid Sodium Acetate – AMS1431B approved; Provifrost KF Liquid Potassium Formate – AMS1435A approved; Cryotech CMA Solid Calcium Magnesium Acetate; and Cryotech CMA40 Solid Blend of 40% CMA and 60% rock salt.

KILFROST EXPANDS PRODUCT RANGE

A GLOBAL leader in de-icing and anti-icing, Kilfrost has expanded its portfolio of products for the aviation industry in order to keep ground maintenance staff and passengers safe and mobile in winter weather.

Kilfrost has introduced Power Pellets to its innovative ‘Kilfrost Ice Melt’ range. The newly launched Power Pellets, a composite mixture of low hazard and fully biodegradable de-icing chemicals have been specifically developed for large-scale applications. Ideal for use on passenger and access areas including walkways and car parks, the products offer fast, effective ground de-icing and are significantly less corrosive than traditional rock salt.

Kilfrost Ice Melt has been developed following over 75 years experience in pioneering specialist de-icing and anti-icing fluids for the aviation industry across the world.

A clean formulation product which is completely soluble and avoids the messy residue left behind by traditional rock salt, it is also fully biodegradable and not harmful to humans, animals or vegetation, making it ideal for even sensitive settings.

The Tarsier system is an invaluable addition to the airside safety department’s FOD management strategy, reducing the risk beyond that which is possible through manual inspections alone. It is an integral part of Heathrow’s proactive approach to safety management.

Neil Pritchard, Airside Operations Manager, London Heathrow Airport

Call us on +44 (0) 8700 100 942 or visit www.QinetiQ.com/Tarsier
**VETTER’S HIGH QUALITY LIFTING BAGS**

**VETTER OFFERS** suitable lifting bags for all kinds of civil and military aircraft, including the A380. When it comes to security and fast, safe recovery, quality is all that matters. This is why Vetter exclusively produces in Germany, guaranteeing the highest quality standards.

Innovative 1 bar aircraft lifting bag system for a safer lifting process: Only Vetter offers you Aircraft Lifting Bags with both 1 bar and 0.5 bar air pressure. The 1 bar system has many advantages over the conventional 0.5 bar systems, such as an improved stability, especially to lateral forces. It allows more stable lifting – and therefore safer recoveries.

Unique Vacuum Contour Matching Bags for the most gentle lift: Only Vetter offers you Vacuum Contour Matching Bags, which fit to every kind of aircraft. They adapt precisely and gently to wings and other crucial parts of an aircraft. Your benefit: better lift, no additional damage.

Recovery teams trust Vetter’s products to quickly clear the runway from disabled aircraft without further damaging the valuable aircraft. This reduces impending losses for both airport and airlines.

The Lifting Bags offer you innovative pneumatics. Vetter offers you individual service.

As an Expert for Emergency Pneumatics, Vetter has been supplying Aircraft Lifting Bags and other Recovery Equipment to airports around the world for more than 30 years. Vetter is an IATA Strategic Partner and is always up to the latest rescue standards and actively engaged in the continuous improvement of how aircraft recovery is performed.

**Experience emergency pneumatics live:**
vetter.info@idextrp.com. Phone: +49 (0) 22 52 / 30 08-60.

**More information:**
http://www2.vetter.de/Main/News,38,27.aspx.
Request our Vetter Aircraft Recovery Catalog now: vetter.info@idextrp.com

**SCARECROW’S ULTIMA V3**

**SCARECROW** is a leader in airside bird dispersal and offers unique products to the industry.

Ultima v3 offers effective airside bird and wildlife dispersal. It is both a highly effective bird dispersal system and a data analysis tool. Using a rugged tablet touch-screen PC, a GPS receiver and data collection software, it creates a real time record of dispersal management. The system creates an audit trail featuring date, time, location, system operator, species, flock size and dispersal direction.

The 21cm screen can display a database of bird recognition information, including full-screen illustrations to aid identification and it establishes proof of dispersal procedures completed in real time, logging the system operator, species, time and date of dispersal. Two vehicle roof mounting loudspeakers, mounting kit and a fist microphone for live announcements are provided for captured data to be transferred to the airport analysis system.

New standard features for 2011 include GPS Calibrated Image Mapping and the Runway Inspection Module. The former combines with the Ultima v3 airfield map to give an instant overview of the level of wildlife presence, while the latter has been developed to allow users to log runway conditions and for general runway inspections.

**ASFT’S WEATHER REPORT**

**ASFT**, a family-run developer of surface friction measuring technology, has collaborated with Saab Security to manufacture weather monitoring products. The new range perfectly complements ASFT’s other products, which are approved by FAA, ICAO and UK CAA CAP683 for unrestricted operation at aerodromes. In the partnership, ASFT and Saab Security cooperate in developing and marketing IT systems and products for weather monitoring at airports. ASFT now offers computerised technology for detecting and monitoring freezing points, precipitation, ground frost, ice deposit growth and colour/infra-red camera systems. The technology is purpose-built for stationary or mobile use.

The product portfolio includes: Fresnor – freezing point detection; Optic Eye – precipitation; ground frost measuring; general monitoring computers (GMC); general monitoring systems (GMS); runway weather information systems (RWIS); Advicy – ice warning system; IceMonitor; cameras; and mobile units.

As part of their collaboration, ASFT and Saab Security cooperate in developing and marketing IT systems and products for weather monitoring at airports.
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